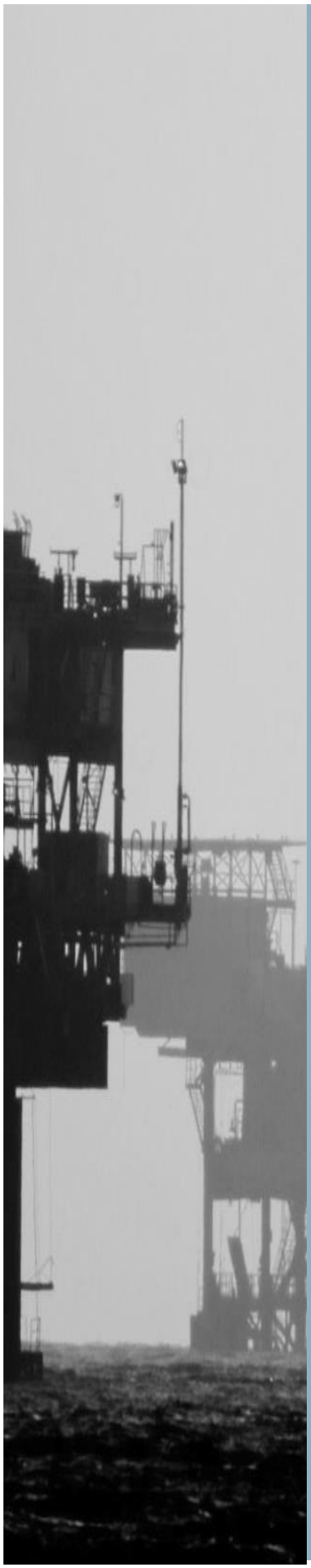
ADH ENERGY

Reach. Innovation. Growth.

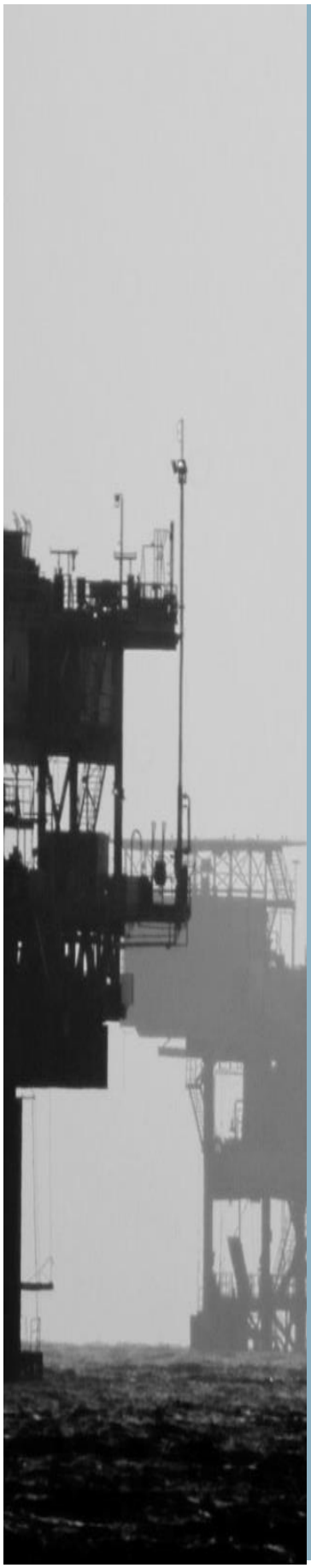


ABOUT US

ADH Energy is a technology company focusing on the commercial integration of breakthrough technology, and providing executive-level strategy consulting to the energy industry. By connecting cutting-edge technology to oil and gas producers, we deliver solutions to clients seeking new ways to gain a cost-effective, clean, and efficient edge on their competitors. We and our partners provide:

- New extraction technology for bypassed oil and gas
- Enhanced oil recovery solutions
- Nanotechnology-based fluids for maximizing ultimate recovery and improving drilling performance
- High-strength proppants for enhancing production from tight reservoirs
- Lateral drilling technology to access targeted areas deep in the reservoir
- A range of management programs for inspection
- A broad range of inspection services, including training and certification of high school students and inspectors to level 1 and level 2, for both upstream and downstream
- Facilitation of R&D collaboration with major national labs, universities, and private companies
- Senior technical and executive recruiting for oil and gas
- Design of secure, blast-proof underground facilities for oil and gas and oil derivatives for national strategic reserves
- Software solutions and 3D analysis and visuals to minimize impact of catastrophic physical events

Founded in 2006, we leverage our vast market knowledge and decades of engineering experience to effectively match our solutions to the companies that need them. Headquartered in Houston, Texas, we provide a comprehensive range of solutions to the energy industry.



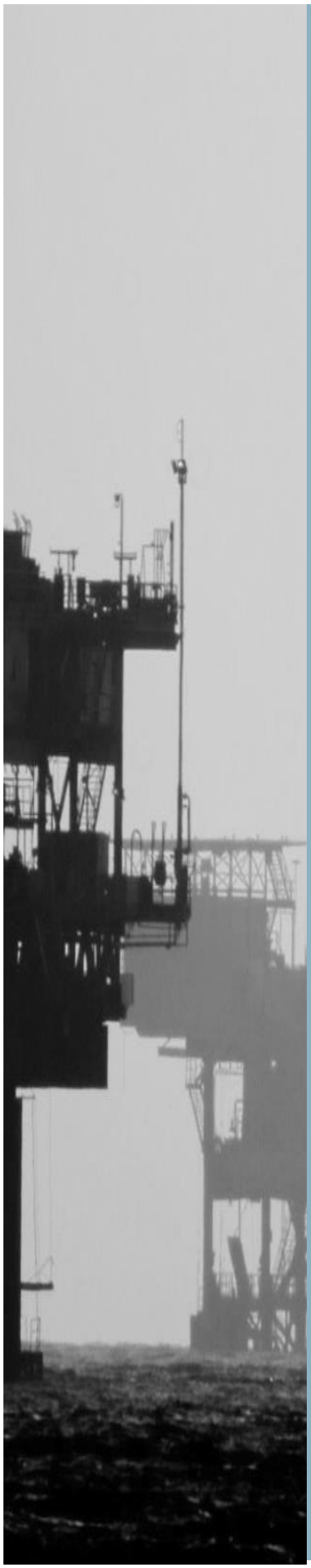
ULTRADEEP JETTING: BYPASSED OIL RECOVERY

UltraDeep Jetting is an efficient EOR method that improves recovery factor by accessing residual and bypassed oil and optimizing production in oil and gas wells. With UltraDeep Jetting technology, four 100-meter laterals can be jetted in any one horizon in vertical and highly deviated wells enabling increased reservoir access. Unlike fracking, with UltraDeep Jetting, material is removed from the formation to create an open OD channel up to 3 inches and 100 meters (330 feet) in length.

UltraDeep Jetting technology is highly versatile, with a range of applications including well enhancement, increased injection rates in disposal wells, and deep acid penetration.

What We Do

- Improve the recovery factor for mature and new fields by 10%
- Access bypassed hydrocarbon
- Reduce need for fracking fluid by 25% and for fracking horsepower by 30%
- Access thin-bed reservoirs at a 90-degree angle from casing
- Increase the injection rate for water and gas injectors
- Operate at an absolute minimum environmental impact
- Uniformly drain the reservoir and increase the reservoir drainage area
- Enable the deeper deployment of stimulation fluid in reservoirs



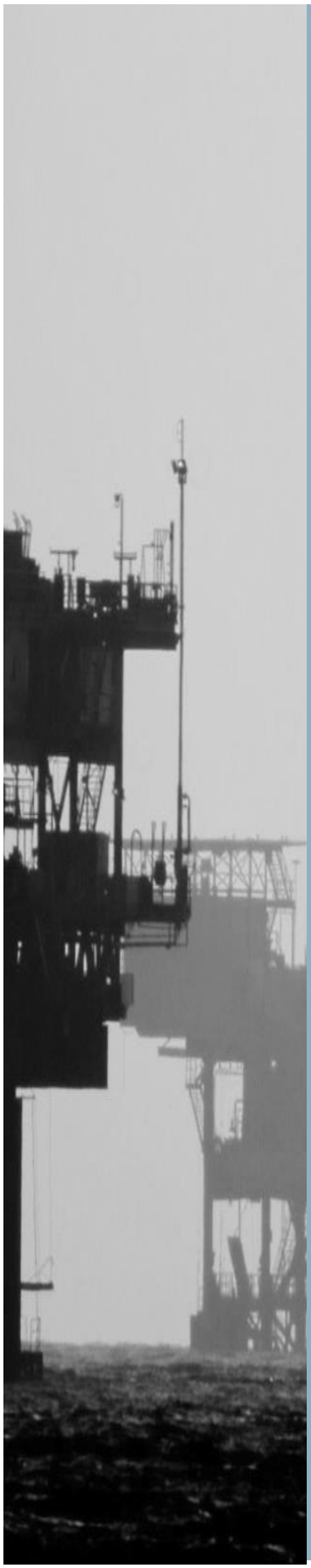
How it Works

UltraDeep Jetting is a method to rehabilitate and optimize wells by drilling lateral holes using high-pressure fluid up to 100 meters from the well bore. The process takes about 2-3 days and has been proven to increase production several fold in more than 1,600 wells worldwide.

By the use of high-pressure hydraulics, the UltraDeep Jetting system generates erosional power and pulling power to penetrate most sedimentary rock formations. Using high pressure erosional forces, calculated hydraulic impact, and full use of tension and pulling strength of fast moving fluids, we penetrate the formation to a length of up to 100 meters thereby creating a permeability channel in all directions to maximize the drainage of hydrocarbons from the reservoir and at the same time create conduits for chemical, steam or frac applications.

Using UltraDeep Jetting for Reservoir Enhancement

- Less pressure requirements due to the establishment of a drainage grid
- Less volume due to increase of permeability channels in the reservoir
- Reservoir coverage in layered deposits by using Circumferential Angular Penetration (CAP) system
- Dramatically reduced use of fluids (water and chemicals) due to full reservoir exposure to effective pressure and volume



ULTRAFLOW NANOFLUID

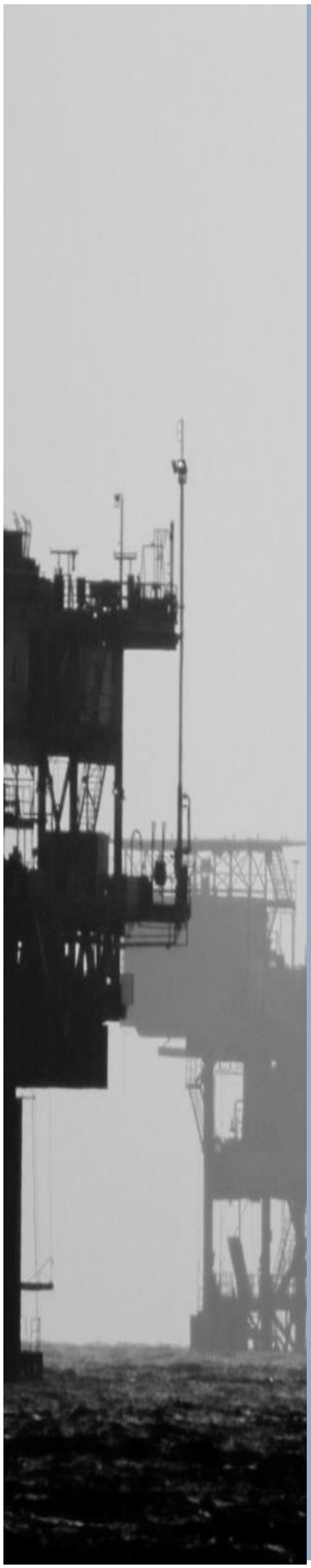
UltraFlow Nanofluid utilizes advanced particle design technology to optimize production from oil and gas reservoirs at reduced cost to clients and to the environment. Particle size has been optimized for improved penetration of formations in unconventional resource plays, while simultaneously allowing the inclusion of multiple chemical additives and the fulfillment of different completion needs. While increasing well productivity, UltraFlow Nanofluid lessens the environmental impact of completion and production by requiring less proppant, water, chemicals, and horsepower, significantly reducing the overall environmental cost. UltraFlow Nanofluid can enhance production and drive capital efficiency through its ability to:

- Increase drilling efficiency
- Increase initial production
- Increase production by enhanced remediation treatments
- Increase estimated ultimate recovery
- Increase reserves through optimized production

UltraFlow Nanofluid technology involves the combination of surfactant, solvent, and the nanoscopic structure. Our surfactant lowers IFT and changes contact angle, while the solvent dissolves organic deposits and changes wettability, the nanodroplet evenly treats large surface areas, and the solvent permeates the pore spaces of the well.

UltraFlow Nanofluid:

- Reduces interfacial tension
- Reduces capillary pressure
- Increases load recovery
- Improves hydrocarbon mobility
- Mitigates damage from shut-Ins
- Increases proppant conductivity EOR
- Enhances fluid mobility and conformance control
- Increases EUR



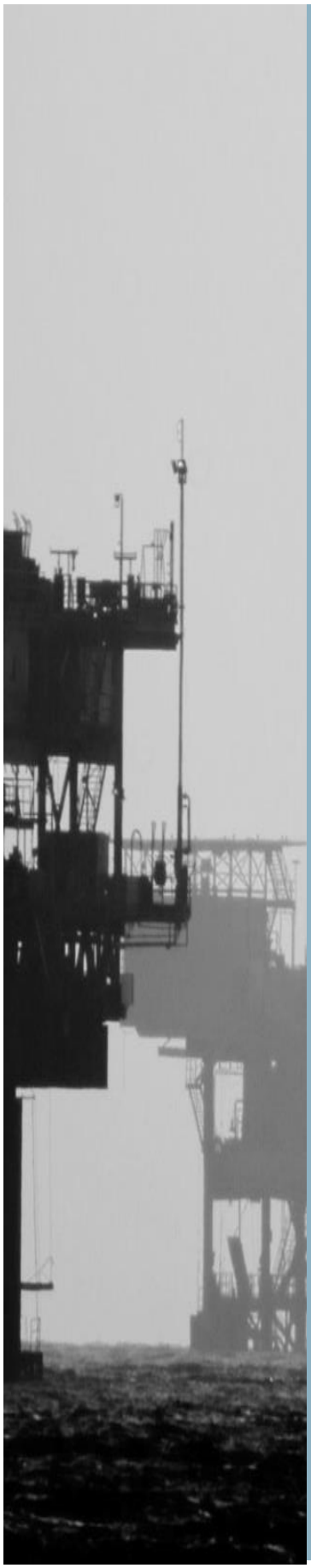
Emulsion vs. Microemulsion: A fine dispersion of solvent droplets will lead to a more extensive and uniform coating of the surface than a single large emulsion droplet. A single 5-micron emulsion drop will deposit in one spot, while the same volume in 4.6 million 30 nm drops will deposit evenly over a much larger area. UltraFlow Nanofluid additive droplets are much smaller than the droplets of solvent found in a normal emulsion (> 1000 nm). Since they are smaller than the pores of oil-bearing formations, they are able to permeate solvent throughout the porous structure without the risk of emulsion damage. They have the permeability of water in porous media.

UltraFlow Nanofluid:

- Has been tested, proven, and used in all major North American reservoirs and select global reservoirs
- Has demonstrated improved initial and sustained productivity
- Has improved performance after shut-in
- Has been used with most major stimulation fluid systems and service companies in hydraulic fracturing, acidizing, and slick water
- Has been used to 350°F
- Has demonstrated performance up to 200,000 TDS by selected Nanofluid additives

In addition to UltraFlow Nanofluid, we offer:

- Stimulation chemicals
- Cementing chemicals
- Improved oil recovery
- Drilling fluid additives
- Solvents and surfactants
- Coil tubing chemicals
- Production chemicals



CONSULTING SERVICES

ADH helps our clients access the resources that they need to flourish- our consulting practice enables senior management to make crucial decisions for the future of their company, and our recruitment services leverage our far-reaching international network to find the right senior technical and managerial staff for our clients' needs.

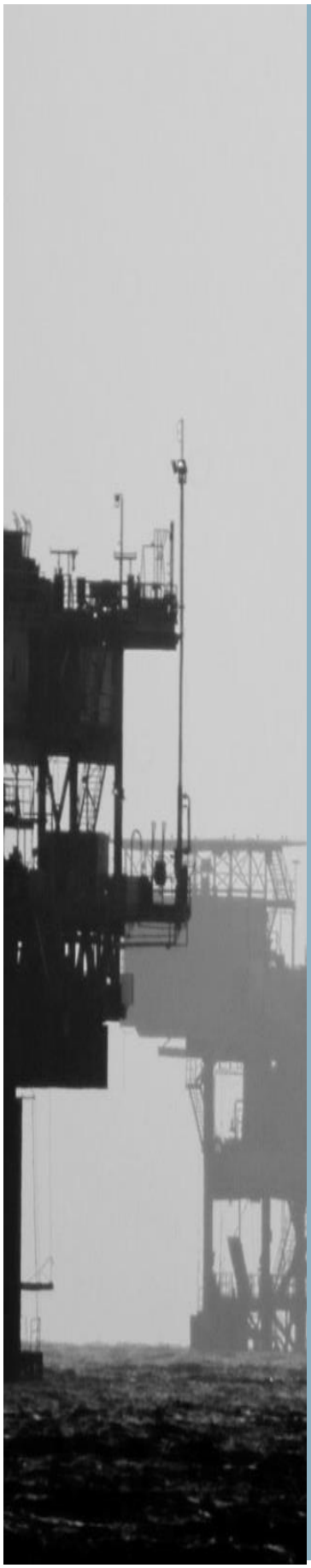
Our reports focus on changes in key industry metrics that drive high-level decision-making in the oil and gas industry. We provide up-to-the-minute, difficult-to-find data and analysis; our market analyses cover:

- Cost of service analysis
- US unconventional and conventional analysis
- Rig and well count analysis
- Full company analysis
- Technology evaluation and management

Cost of Services
We analyze oilfield and operator services cost by service line, land vs. offshore spend, region, and major country.

Business Analyses
ADH tracks changes by quarter in sales volume, F&D cost, reserve replacement, capital operating margin, production, and net margins for major oil and gas companies in the United States. We also compare OPEX and F&D costs by E&P spending, technology spending, R&D spending, and cost breakdowns.

U.S. Shale and Unconventional Production
Our reports on U.S. shale and unconventional production quantify the impact of new technology on oil and gas production and includes up-to-date analysis of shale oil and shale natural gas production, rig count, and rig permits issued by major shale plays in the US. We provide analysis of US oil and gas reserves and production, new wells production, change in legacy production by month, and impact of oil & gas spot prices on production.

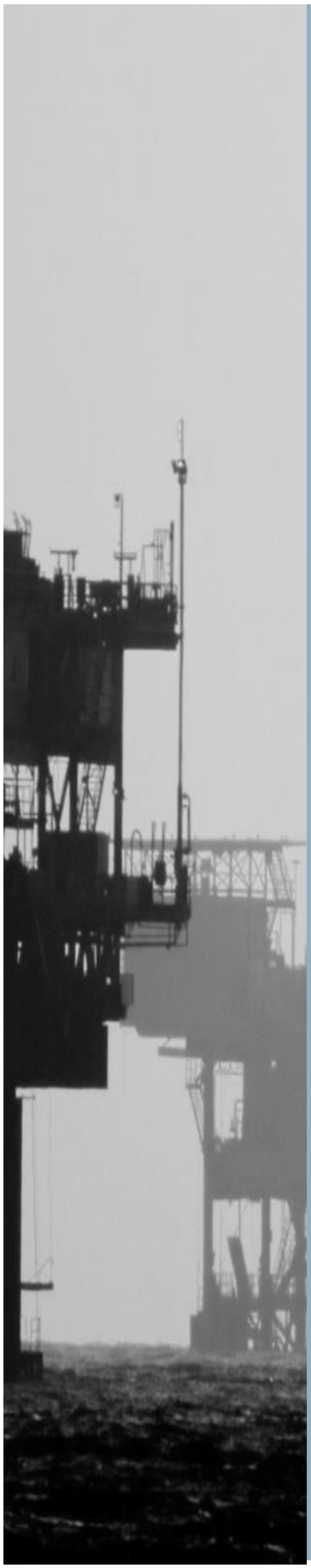


Global Unconventional Drilling Activity
Comprehensive information about rig and crew daily rate, rig utilization, drilling efficiency, shale footage share, and major operators and contractors for all major shale and tight sands plays in the US. We provide rig count by rig class, utilization of rigs, shale footage share, and drilling efficiency for each play, as well as the number of rigs operated by each operator and contractor in all major shale and tight sands plays in the US.

Rig Count
We provide a comprehensive offshore rig count for every region globally broken down by rig type and rig contractor. Our analysis also includes the impact of oil & gas prices on drilling activity in the US, offshore and land rig count for each region globally, offshore rigs by rig type and operator, and for the U.S. and Canada, we analyze the change in rig count by month by rigs drilling for both oil and gas, and rigs by well depth.

Rig Day Rate
We provide comprehensive, accurate, and up-to-date day rate data for all US land rigs and global offshore rigs. We provide information for global offshore rig day rate for all rig types and sub-types by all regions and sub-regions and major countries, and analyze the day rate trend over time, the day rate for all major rig types and for all major US regions over time, and the effect of WTI spot price on the rig day rate.

Drilling Efficiency
We provide drilling efficiency measures for all regions and major countries, rig utilization by rig type for US land rigs and global offshore rigs and analyze drilling efficiency factors for all regions globally including wells per rig, footage drilled per rig, footage drilled per well, and utilization percentage for US land rigs and global offshore rigs for all rig types and classes.



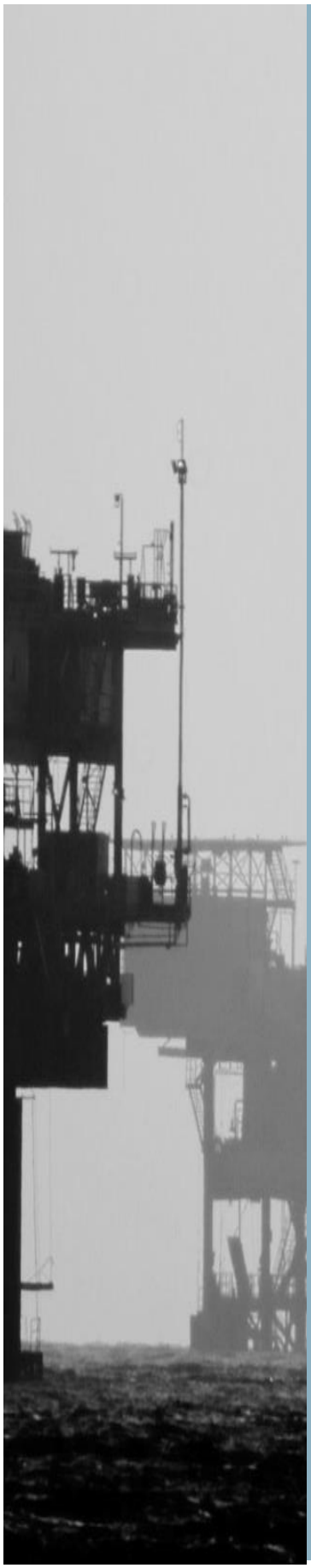
RISK MANAGEMENT: BLAST AND FAILURE ANALYSIS

Applied Science International provides clients with progressive failure analysis via unique software solutions and support. ASI provides advanced nonlinear analysis of actual or possible scenarios of structural failure as well as structural design and analysis. ASI's proprietary Extreme Loading® Technology (ELT) enables ASI to provide superior 3D analysis and visuals of failure due to wave impact, onshore failure, or collapse of production platforms, rigs, and other oilfield structures.

Extreme Loading® Technology

ELT is designed around the Applied Element Method (AEM) of analysis, which is capable of performing linear and non-linear analysis that follows the behavior of structures through separation, collision, and collapse, while automatically calculating:

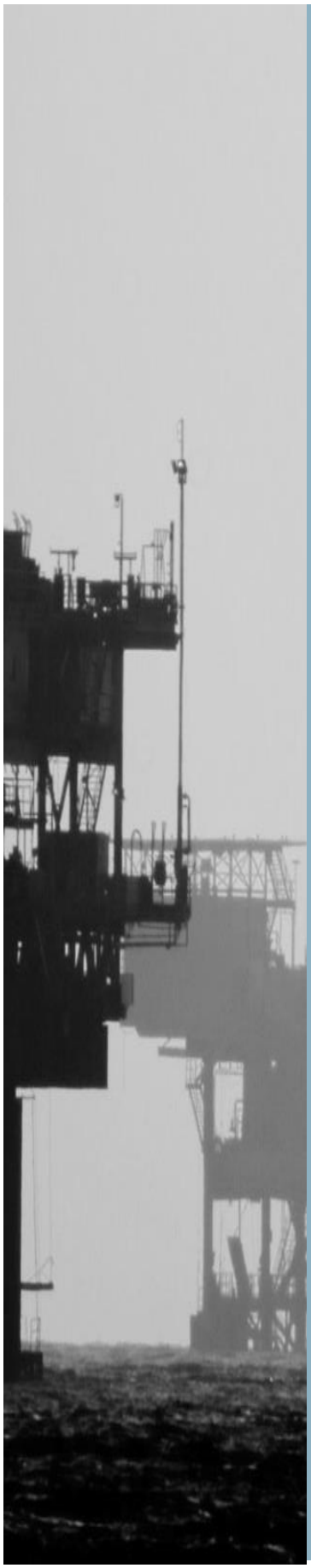
- Yielding of reinforcement
- Plastic hinge formation
- Buckling & post-buckling
- Crack propagation
- Membrane action & P-Delta
- Separation of elements
- Collision and collapse



Since AEM can automatically detect the initiation of cracks, track their progression throughout the structure, and simulate actual element separation, collision and final collapse, it removes a large amount of human error. This produces a truer analysis of structural behavior than any methods of structural analysis.

Structural engineering services offered by ASI:

- Demolition analysis & planning
- Seismic analysis
- Blast analysis
- Impact analysis
- Glazing system analysis
- Forensic engineering
- Wind analysis
- Progressive collapse analysis



SURVEYS AND MONITORING

GroundMetrics is a full-service survey and monitoring company and the world leader in land-based resistivity & electromagnetic sensor systems. By processing GroundMetrics' survey data through GroundMetrics' DSEMI-3D inversion software, we produce full-field resistivity maps and 3D models that provide an enhanced view to help our clients' engineers and geoscientists make better drilling and field development decisions. With revolutionary electromagnetic sensor technology, GroundMetrics acquires data that is 100x more precise than industry state-of-the-art equipment.

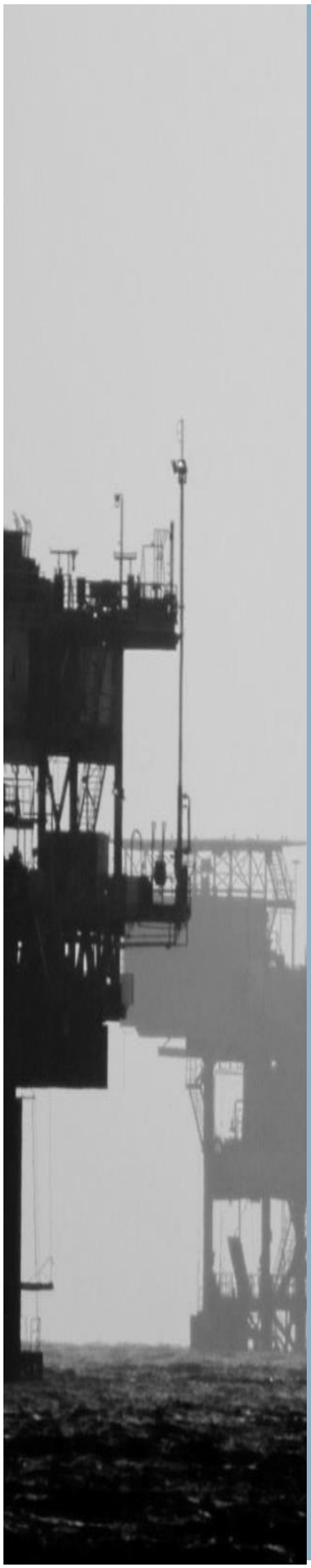
GroundMetrics has developed a new class of land-based electromagnetic sensors and survey methods that acquire deep subsurface resistivity data between and far beyond wellbores. This unique technology provides full field imaging and monitoring level precision.

Technology

- Small and Large Surveys: Wireless communications combined with capacitative sensors enable fast acquisition and rapid cycle time, making small and large surveys (one to hundreds of miles in size) feasible.

- Terrains and Environment: The use of capacitative sensors, which don't require an electrochemical interaction with the earth, make operations in most terrains and environments possible. They can even operate in arid regions, something not feasible with industry standard electromagnetic sensors. These sensors are non-invasive and operate 100% at the surface.

- New Depths and Lateral Ranges: Placing the source/transmitter counter electrode on the surface at a significant distance away from the wellbore casing greatly increases the lateral range of the electric field (>2 miles, >3 km) in all directions, radiating 360 degrees away from the wellbore



- Acquire Multi-Mile Resistivity Data: Deploying the sensors at the surface and counter electrodes also at the surface but at a significant distance away from the wellbore allows data to be acquired between and far beyond wellbores.

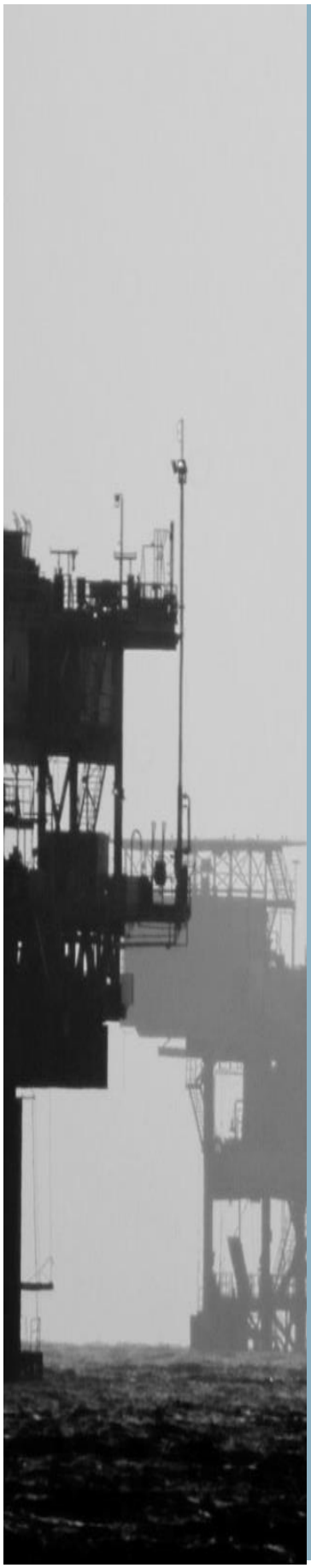
- Long-Term Monitoring: Unparalleled precision and stability throughout the signal chain allow for monitoring via time-lapse surveys.

- Permanent Installation: Such precision and stability combined with capacitive sensors that are immune to environmental changes mean the system can be installed permanently for ongoing monitoring.

Services

- Oilfield Solutions: GroundMetrics' multi-mile resistivity maps provide an enhanced view to help engineers and geologists make better drill and field development decisions. GroundMetrics provides data that distinctly discerns resistors (oil, gas & CO2) from conductors (salt water, steam & chemicals).

- Survey and Monitoring Services: GroundMetrics offers survey and monitoring services to give our clients the edge through increased production and greater returns.

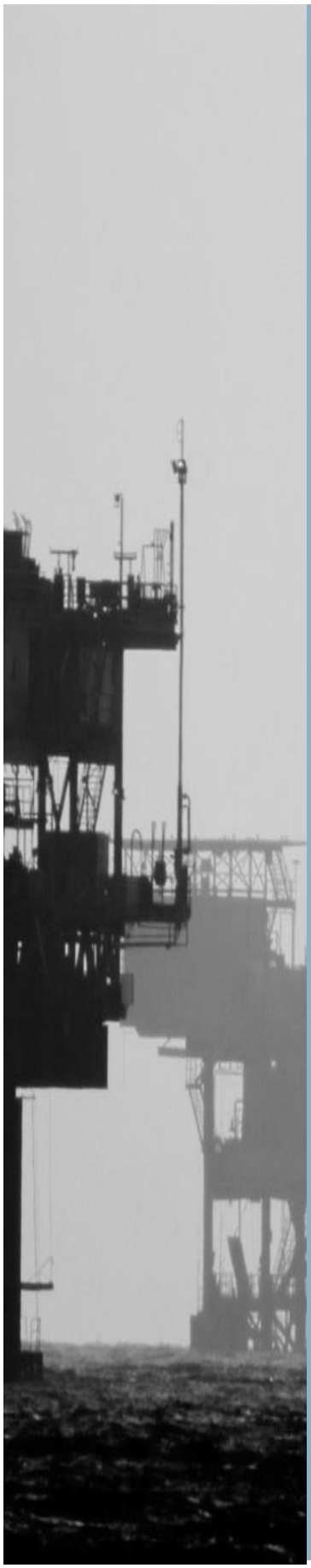


RESERVOIR SIMULATION

Key in production optimization is the capacity to accurately assess reservoir potential. FracGeo technology came about to develop and deploy advances in geomechanical technology to optimize production by accurately determining stimulated reservoir volume through modeling of the impact of anomalous microseismic surveys on the stimulated reservoir volume and, consequently, shale well performance. FracGeo models the interaction between hydraulic fractures and natural fractures to predict how fractures will evolve when hydraulic fracturing is employed.

FracGeo offers:

- Use of the Material Point Method (MPM) for the geomechanical simulation of hydraulic fractures interacting with natural fractures
- Use in geomechanical simulations of the Continuous Fracture Modeling (CFM) to describe the natural fractures as an Equivalent Fracture Model (EFM) interacting with multiple hydraulic fractures
- The ability to find optimal frac stage positions and irregular spacing between them
- The ability to quantify the impact of a sequential, parallel or zipper fracking and find the optimal fracking sequence in a well pad
- The ability to predict microseismicity numerically and validate it with real field data
- The ability to predict the initial distribution of the propped volume
- The ability to provide to common frac design software the asymmetric and variable half fracture lengths that correct for the lack of natural fractures in their formulation
- The ability to provide to reservoir simulators the initial distribution of the stimulated permeability that allows the match of early well performance



DRILLING RIGS

ADH partner Rotary Oilfield Drilling Equipment, Intl. has over 80 years of experience providing drilling solutions to the oil and gas industry. Based in Houston, Texas, RODE designs and builds rigs for onshore, offshore, and deepwater drilling.

RODE provides:

- Desert mobile rigs
- Helicopter rigs
- SCR skid-mounted drilling rigs
- VFD skid-mounted drilling rigs
- Trailer-mounted drilling rigs
- Mechanical drilling rigs
- Truck-mounted rigs
- Rigs to 3000 horsepower in both mechanical and electric/SCR drive systems
- Conventional masts and substructures box-on-box, to swing up, lo-lift and telescoping mast
- Skidding equipment

For international customers, RODE provides full export & forwarding services worldwide, including packaging, crating, and shipping drilling rigs and rig equipment. RODE also offers full rig-up capacity, repair and rebuild services, and certification.

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