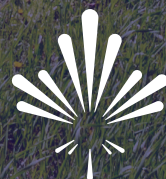


MIDCONCONTINENT

REGIONAL OVERVIEW



AES DRILLING FLUIDS

MIDCON REGION

OPERATIONS



The Mid-Continent region has a long history in energy - and a long history of complex well challenges in a cost-sensitive environment.

Highly reactive clays, lost circulation, and wellbore instability are just a few of the drilling issues that can make the difference between a routine well and a debacle. Experience, products, and execution are essential to controlling costs.

While the Mid-Con is a geographically small area, its geological complexity results in diverse drilling scenarios. Often-discussed areas like the SCOOP/STACK are actually geographic regions consisting of a broad range of formations. Some of these formations are readily drilled with water-based fluids and a simple lubricant while others require invert emulsion drilling fluids to minimize problems.

Since 2015, AES Drilling Fluids has delivered more than 2,100 wells in the region - with hundreds more in the years prior. Our facilities and services are positioned to meet the demands of thousands more.



For water-based applications, ENERLUBE[†] delivers torque and drag reduction with broad compatibility. AES VERT[†] invert emulsion delivers critical inhibition in highly reactive formations to maintain a gauge wellbore. Throughout loss-prone areas, a full suite of loss prevention and treatment additives improve productivity and maintain circulation.

Technical support for the region is provided by our Houston Support Services Center, which features standard mud testing and advanced analytical equipment to address any challenge. Our high pressure, high temperature viscometer measures fluid properties under extreme conditions for reliable hydraulic modeling. Tools such as x-ray diffraction, GC-MS, and TGA are performed in-house with dedicated experts to prepare and analyze samples.

Our RIG FILE system tracks drilling fluid properties, volumes, product usage, and drilling activity for daily reporting and overall well performance data. This system integrates with our dedicated sales portal to minimize paperwork without compromising accuracy of critical records.

Our experience goes beyond our proven personnel to our ability to utilize offset data for the best possible outcome of a given well. Our data analytics platform, AES ANALYTICS[†], tracks key benchmarks and success factors to plan, execute, and review drilling fluid practices. Rapid access to data allows for informed decisions at critical moments to save time and money.

2140+

WELLS SERVICED SINCE 2015

More than 2100 wells in the Midcon Region since 2015



FULL-SERVICE FACILITIES

The Clinton Facility operates on a 24-hour regional dispatch with a mud engineer on duty at all times to perform required mud checks in the on-site mud testing lab.



AMPLE CAPACITY

The Clinton Warehouse and Mud Plant can service up to 50 rigs at a time.



FACILITIES

CLINTON, OKLAHOMA

The Clinton facility features a 20,000 square foot warehouse and a 3,000 square foot covered loading area. It offers a full mixing facility for blending and reconditioning drilling fluids. Clinton operates on 24-hour regional dispatch with a mud engineer on call to perform required mud checks in the on-site mud testing lab.

The Clinton facility services the Mid-Continent region with a full mixing facility and chemical warehouse. The liquid mud plant supports oil-base drilling fluids.

Chemical inventory includes key drilling fluid additives including bulk barite and lost circulation material. Chemical storage is available in the 20,000 square foot warehouse or in dedicated areas in the yard.

AES Drilling Fluids is constantly upgrading facilities to meet the needs of its customers. Confirm the latest capabilities and locations with an AES account manager.



The Clinton Facility has its own rail spur which receives barite directly from our sister company, Superior Weighting Products, out of its Corpus Christi grinding facility.



Each of the eight rail cars has the capacity to hold 100 tons of bulk barite, with a capacity to haul 800 tons in a single trip. The commute from Corpus Christi, TX to Clinton, OK takes 15 days by rail, resulting in expedited product delivery and overall freight savings when compared to standard trucking costs. The Clinton Facility also has its own truck scale and the ability to unload box cars for additional site materials.

STORAGE

20,000 sq ft warehouse and 3,000 sq ft covered unloading area
15,400 bbl bulk liquid mud
29,000 sacks bulk barite
1700 bbl diesel
300 bbl freshwater and 1700 bbl CaCl₂ storage tanks

MIXING

2 x 500 bbl round mixing tanks

EQUIPMENT

Mud lab (quality control)
Forklifts (4)
Boom lift (1)

HOUSTON

SUPPORT SERVICE CENTER

The Houston Support Service Center provides comprehensive services for customer projects, operations support, and new product development. It features a broad range of testing equipment, including sophisticated analytical tools to quickly respond to time-sensitive challenges.

This full-service laboratory is operated by specialists with a diverse background in drilling fluids and related chemistry functions. The Houston Support Service Center performs a wide range of activities from basic drilling fluid tests and product quality control to research and new product development.

AES Drilling Fluids is constantly upgrading facilities to meet the needs of its customers. Confirm the latest capabilities and locations with an AES account manager.

SELECT EQUIPMENT

Full suite of equipment for API water-, oil-, and synthetic-based drilling fluid checks

Chandler 7500 HPHT viscometer (30,000 psi / 600°F)

Shimadzu QP-2010s gas chromatography-mass spectrometry + flame ionization detection + electron capture detection (GC-MS + FID + ECD)

Bruker Invenio Fourier transform infrared spectrophotometer (FT-IR)

Netsch TG 209 F1 Libra thermobalance (TGA) with coupling to FT-IR for evolved gas analysis

Rigaku MiniFlex 600 x-ray diffractometer (XRD)

Rigaku ZSX Primus x-ray fluorescence analyzer (XRF)

Malvern Mastersizer 3000 laser particle analyzer

Thermo Scientific Phenom XL scanning electron microscope (SEM)

Keyence VHX 1100 visible light microscope (50x, 200x, 1000x)



Thermobalance



HPHT Viscometer

AES Drilling Fluids has multiple labs with equipment to address basic questions and solve complex challenges.



SYSTEMS & PRODUCTS

By working with our customers to address specific needs, our products and systems perfectly complement our incomparable support and services.

AES Drilling Fluids manufactures many of its own products to ensure they perform to the highest standards for the operations we serve. Our drilling fluid systems offer the flexibility to perform across a range of environments. From the conventional water-based systems to chloride-free synthetic invert emulsions, we continue to deliver application-based solutions.

The AES VERT[†] diesel invert emulsion system provides a low-cost solution across a broad range of mud weights and temperature requirements. Even with superior solutions, we continue to advance our portfolio with new and improved offerings to meet the needs of evolving drilling technology.



AES Drilling Fluids utilizes both unique and patented technologies and specialized personnel to help our customers to lower their overall drilling costs and enhance efficiency of the wells they drill.

As drilling has become more complex, the applied down-hole technologies are becoming increasingly important in driving success for operators. AES drilling fluids continues to invest in research and development to lead the drilling fluids market in technology.



AES VERT[†]

Invert Emulsion System

AES VERT is a robust, flexible invert emulsion drilling fluid system that provides all of the benefits of invert emulsion with maximum operational efficiency. AES VERT performs across a wide range of densities and temperatures, including long horizontal wells approaching 30,000' measured depth.

**MAXIMIZE RATE OF
PENETRATION**

**HIGHLY
INHIBITIVE**

**MINIMIZES
TORQUE**

**FLEXIBLE SYSTEM
DESIGN**

AES VERT is ideal for a variety of wells where an invert emulsion system is desired. Compared to water-based systems, AES VERT offers superior inhibition and lubricity to simplify challenging extended reach wells. AES VERT is available at densities ranging below 7.8 lbm/gal to over 20 lbm/gal, although higher densities are possible when needed.



MC POWERSEAL[†]

MC SUPERSEAL is an composite blend of granular and fibrous lost circulation materials. Includes high-compressive strength materials for wellbore strengthening

- Effective sealing across a wide range of fracture sizes
- Performance under elevated pressure conditions
- Superior performance relative to existing products
- Single-sack product for ease of application



BRINEX[†]

BRINEX is a liquid additive added to a full circulating system or in concentrated pills. A standard circulating system recommended treatment is 1.5% v/v, with most applications using between 1 - 2% v/v.

- Reduces metal-to-metal and metal-to-formation torque and drag without affecting drilling and fluid properties.
- Engineered for water and brine-based systems to perform at low concentrations.



ECM 1[†] & ECM 2[†]

Loss Circulation Material

ECM 1 is part of an optimized blend of fine and medium-sized natural materials, fibers, and cellulose to prevent and treat lost circulation.

ECM 2 is part of an optimized blend of medium and coarse-sized natural materials, fibers, and cellulose to prevent and treat lost circulation.

When used in combination with one another, the blend provides a broad distribution for bridging and sealing while minimizing products required at the rigsite.



MICRO STRENGTH[†]

Wellbore Strengthening Material

MICRO STRENGTH is designed to enhance drilling performance by sealing losses and strengthening the wellbore. MICRO STRENGTH includes a special, sub-micron material to improve sealing and packing in microfractures, reducing fluid loss.

- Seals and strengthens the wellbore covering fractures up to ~250 microns
- Superior compressive strength allows material to seal and support openings
- Sub-micron material improves sealing and packing in microfractures



AES ANALYTICS

AES ANALYTICS allows operators to compare wells and identify outlying cost and performance data quickly and easily. Points of interest can be investigated in more detail by clicking on a data set of interest for a well, pad, rig, or region for quick comparison. This helps to determine the best options for mud weight selection, drilling fluid properties, treatment solutions, and much more.

DESCRIPTION

A data analytics platform to optimize drilling fluid performance and minimize cost
Easily observable data sets are presented on dashboards customized to customer needs

BENEFITS

Rapid access to large data sets minimize time to make informed decisions
Visualizations allow for quick trend analysis
Customization and continuous improvement regularly enhance available insight

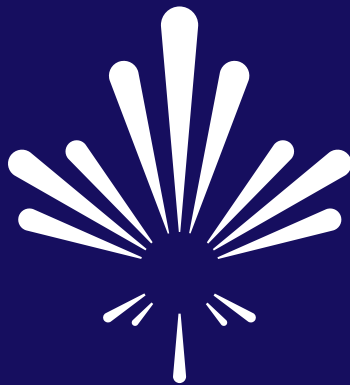
APPLICATIONS

Well planning to identify risks and maximize insight from offset wells
Tracking activity to key performance indicators
Evaluating cost, product consumption, and overall performance by area, pad, rig, or other criteria



QUESTIONS?

Reach out to your AES Account Manager or visit www.aesfluids.com for more information



AES DRILLING FLUIDS

www.aesfluids.com

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