NORTHEAST

REGIONAL OVERVIEW

AES DRILLING FLUIDS

NORTHEAST REGION

OPERATIONS

Spanning Ohio, Pennsylvania, and West Virginia, the shale plays across the northeast require a commitment to consistency with the resources to respond to surprises.

While most discussions about drilling in the Marcellus and Utica formations center around efficiency, it's important to not overlook the potential for surprises in the form of abnormal pressures, flows, and losses. Repeat success requires a plan for the expected along with the unexpected.

AES Drilling Fluids traces its roots back to the dawn of the shale revolution in the Northeast, continuously working with local townships and environmental agencies to offer solutions. Our ABS 40† synthetic-based invert emulsion provides superior properties for drilling, including an optimized base oil. In particularly sensitive areas, we deployed PURESTAR†, a chloride-free invert emulsion system that reduced drilling from 30 days to 7, minimizing impact on communities and alleviating local concerns.

Today, we continue to offer our experience and product portfolio to drill record-breaking laterals using water-, oil- and synthetic-based systems and additives. No matter the area, AES Drilling Fluids provides complete support for the demands of the Northeast.

ABS 40† originated from the demand for a synthetic-based drilling fluid to provide invert emulsion performance while meeting various environmental restrictions throughout the region. A combination of optimized emulsifier, wetting agent, and base oil maximizes performance in both hot and cold weather. We also offer AES VERT†, our conventional invert emulsion system, where applicable. Both ABS 40†and AES VERT† have contributed to the drilling of record laterals on limited pad sites.

Local technical support is provided by our lab in Canonsburg, Pennsylvania which offers conventional mud checks, pilot testing, and particle size analysis. For more complex issues, our Houston Support Services Center offers both 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 a dedicated sales portal to minimize paperwork without compromising accuracy of critical records.

Our experience goes beyond 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.

4000+

WELLS SERVICED SINCE 2009

More than 4000 wells in the Marcellus and Utica since 2009

FULL-SERVICE FACILITIES

Benwood and West Decatur Facilities operate with a mud engineer on call as needed to perform required mud checks in the on-site mud testing lab.

AMPLE CAPACITY

Benwood and West Decatur Warehouses and Mud Plants can service up to 45 Rigs at a time at either location.

FACILITIES

BENWOOD, WEST VIRGINIA

The Benwood facility in Marshall County sits on 4 acres featuring a 55,000 square foot warehouse, mixing facility and bulk storage. Benwood operates with an on call mud engineer on duty at all times to perform required mud checks in the on-site mud testing lab.

The Benwood facility services the Northeast region with a full mixing facility and chemical warehouse. The liquid mud plant supports water-base, oil-base, or synthetic-base drilling fluids.

Chemical inventory includes key drilling fluid additives such as bulk barite and lost circulation material. Chemical storage is available in the 55,000 square foot warehouse or outdoors in dedicated areas on the 4 acre site.

With AES owned frac tanks, the Benwood Facility can separate plant storage from the frac tank.

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 Benwood Facility has 55,000 square feet of indoor warehouse space to house all chemicals and products, ensuring protection during the cold winter months.

The Benwood Facility is nestled between Pennsylvania, West Virginia and Ohio, strategically positioned to service the tri-state region with ease.

STORAGE

55,000 square foot warehouse
9,600 bbl bulk liquid mud
3,000 bbl additional frac tank mud storage
Diesel Storage: 40,000 gal
Base Oil Storage: 282,000 gal

MIXING

2 x 500 bbl invert emulsion mixing tanks
1 x 400 bbl water-base mixing tank

EQUIPMENT

Mud lab (quality control)
Vacuum tankers (1)
Flatbed trailers (2)
Step Deck Trailer (1)
Barite bulk trailers (3)
Railroad spur (15 cars)

FACILITIES

WEST DECATUR, PENNSYLVANIA

The West Decatur facility in Clearfield County sits on 16 acres featuring a 10,500 square foot warehouse, mixing facility and bulk storage. West Decatur operates on 24-hour regional dispatch with a mud engineer on call at all times to perform required mud checks in the on-site mud testing lab.

The West Decatur facility services the Northeast region with a full mixing facility and chemical warehouse. The liquid mud plant supports water-base, oil-base, or synthetic-base drilling fluids.

Chemical inventory includes key drilling fluid additives such as bulk barite and lost circulation material. Chemical storage is available in the 10,500 square foot warehouse or outdoors in dedicated areas on the 16 acre site.

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STORAGE

10,500 square foot warehouse and pole barn
11,400 sacks bulk barite
3 - 250 ton bulk silos on rail
8,800 bbls mud storage in tank farm
8,800 bbls of additional mud strorage (frac tanks)
18,600sx (930 tons) of barite strorage

MIXING

3 x 500 bbl invert emulsion mixing tanks

EQUIPMENT

Mud lab (quality control)
Barite bulk trailers (1)
1 - 75 hp blower
Railroad spur (15 cars)
Barite Trailer (2)

CANONSBURG

SUPPORT SERVICE CENTER

The Canonsburg Field Support Service Lab provides a full suite of equipment for drilling fluid evaluation and troubleshooting.

Rolling ovens provide broad pilot testing capability to optimize treatments and a laser particle analyzer identifies the accumulation of fine solids. More complex challenges are supported as needed with equipment and experts from the Houston and Midland Support Service Centers.

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SELECT EQUIPMENT

Full suite of equipment for API 13B-1 and 13B-2 water-, oil-, and synthetic-based drilling fluid checks

Horiba LA-300 laser diffraction particle size analyzer

Dynamic ageing ovens

Digital EP lubricity meter

Laser particle size analyzer

AES Drilling Fluids has multiple Labs, Warehouses and Mud Plant Facilities Supporting the United States.The Northeast is also supported by the Houston Support Service Center, which also specializes in services for customer projects, operations support, and new product development.

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.

Our ABS 40 synthetic invert emulsion system expands disposal options, reducing trucking in populated and remote areas. Even with superior solutions, we continue to advance our portfolio with new and improved offerings to meet the needs of evolving drilling technology.

Appalachian Basin

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.

ABS 40†

Synthetic Invert Emulsion System

ABS 40 is a synthetic-based invert emulsion system using a base oil blend optimized for performance and environmentally sensitive properties, including zero (non-detect) BTEX and polycyclic aromatic hydrocarbons (PAH). ABS 40 provides the performance of an invert emulsion system where conventional oil-based systems are prohibited or undesirable.

MAXIMIZE RATE OF PENETRATION	HIGHLY INHIBITIVE	LOWERS TORQUE	REDUCES ENVIRONMENTAL FOOTPRINT

ABS 40 is ideal anywhere invert emulsion systems are desired and approved for use, but diesel is undesirable or prohibited. In areas where diesel is prohibited, ABS 40 may offer an acceptable alternative, although this must be confirmed with local regulatory agencies. When drilling on private land, ABS 40 offers a more sensitive option with minimal odor and reduced environmental hazards.

AES ENHANCE NE

AES ENHANCE NE is a secondary emulsifier and conditioner designed to enhance emulsion properties

- Enhances emulsion properties including electrical stability and oil-wetting
- Complements standard emulsifier packages

AES ENHANCE NE is a liquid additive that complements the primary emulsifier in the system, such as AES MUL X. It is added in combination with the primary emulsifier at a set ratio to achieve desired properties. Pilot testing will aid to determine appropriate ratio.

ENERLOC†

ENERLOC is an optimized blend of granular and fibrous lost circulation materials designed to rapidly seal pores and fractures. ENERLOC is a blend of dry additives added to the drilling fluid system to treat a wide variety of lost circulation scenarios. Lab testing can aid to optimize the necessary concentration for a specific scenario.

- Seals a wide range of pores and fractures
- Performs in any drilling fluid system
- Complements ECM 1† and ECM 2† to prevent and treat severe losses
- Complements standard emulsifier packages

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.

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

Revision 1.01