BARASORB® Service

Onsite Screening and Treatment Services to Help Achieve NPDES Permit Oil and Grease Compliance

Operators who are out of compliance with NPDES well treatment, completion and workover fluid discharge regulations face potentially large fines, as well as damage to their reputations. This situation places the operator in the uncomfortable position of having to either retain potential discharges until samples are sent in for lab analysis and qualified as compliant, or proceed with a discharge that may not be compliant. Because of this uncertainty, many operators actively seek to not only meet but to also exceed environmental expectations. As a result, completion fluids are often sent in for disposal in order to avoid the uncertainty associated with noncompliance should an accidental discharge occur.

Exhaustively Tested to Meet or Exceed Regulatory Expectations

Baroid’s BARASORB® service recognizes the difficulties operators face in complying with the NPDES permit’s oil and grease limitations. In creating this service, Baroid field-tested completion fluids for a year to determine the most practical process for reducing the risk of environmental noncompliance. This process has since been refined for application during routine completion fluid diatomaceous earth filtration with no significant impact on filtration performance. The results are a rigsite service that combines state-of-the-art filtration equipment and experienced, knowledgeable compliance specialists to help you meet or exceed regulatory expectations.

With the BARASORB Service, You Can:

- Monitor active-system oil and grease content
- Treat oil- and grease-contaminated fluids in a timely manner with BARASORB® absorbent materials
- Perform onsite pre-discharge screening for increased compliance confidence
- Facilitate earlier discharge, treatment and ship-to-shore decisions
- Achieve a higher level of certainty by paralleling NPDES discharge limitations in real time
- Perform online treatments of produced water resulting from well tests
Onsite Screening

In creating our BARASORB service, Baroid evaluated various ways of screening oil and grease content in a field environment. Candidate test methods were then compared to EPA-required Test 1664 to determine the most reliable pre-screening method. While it is not possible to conduct the EPA-approved test in the field, Baroid has chosen a method that parallels EPA 1664 for monitoring purposes (Figure 1). The result is a field-friendly tool to increase your confidence that permit limitations will be satisfied once onshore compliance testing occurs.*

Treats Completion Fluid Additives

It is important to remove residual organics in the fluid reclamation process, as they may have detrimental effects in subsequent well applications. In one case, a completion fluid had residual organics from additives that contributed to an oil and grease content of 326 mg/l. Treatment provided by the BARASORB services reduced the concentration of oil and grease measured in the fluid to 8 mg/l.

Case History: BARASORB Service Cleans Highly Contaminated Fluid

The presence of an oil- and grease-contaminated fluid was confirmed by significant sheening in the Static Sheen Test. The potentially offending fluid was then filtered through the BARASORB service process, and post-treatment oil and grease samples were collected. Both samples were sent for third-party laboratory evaluation using EPA Method 413.1 (since replaced by Method 1664).

Prior to treatment, the sample contained 1,520 mg/l total oil and grease with filter unit discharge samples containing 26 mg/l total oil and grease. In a single pass, the BARASORB service removed 98.29% of the oil and grease and virtually eliminated all contamination from an initially highly contaminated fluid. Lower initial contamination levels have been treated to less than 5 mg/l total oil and grease.

For more information on how the Baroid BARASORB service can help you screen and treat oil- or grease-contaminated fluids, contact your Baroid representative today.

* The BARASORB method is not approved by the EPA as a method to demonstrate compliance, and the screening system we use is not a substitute for the monitoring requirements specified in the General Discharge Permit.

Important Legal Standards

The United States Environmental Protection Agency (EPA) Region 6 NPDES General Permit No. GMG290000 (General Permit for Discharges) specifies that “Well treatment, completion and workover fluids must meet both a daily maximum of 42 mg/l and a monthly average of 29mg/l limitation for oil and grease.” The permit further states that “No free oil shall be discharged.”

The oil and grease test is defined by the US-EPA Method 1664 and previously Method 413.1 as “Those materials in water that are soluble in Freon 113 (Method 413.1) or in n-Hexane (Method 1664).”

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