
Application Bulletin

Bag Filters Eliminated for Waterflood Injection Wells

System Identification: Waterflood injection

Solids/liquids: Sand, silt and hydrocarbons/produced water

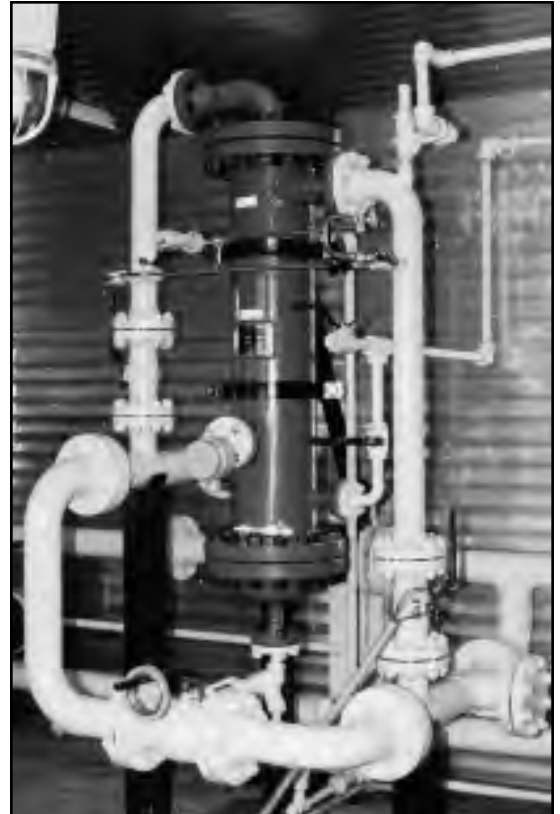
Problem: A bag filter system used to filter produced water at an Anderson Exploration site had to be changed as often as every hour, demanding extensive time of maintenance and plant operations personnel at a site originally designed to be unmanned. The bag filters were being used to protect the oil-water separating hydrocyclone.

Solution: Searching for a lower-maintenance, more efficient filtration solution, the operations staff at Anderson first installed the LAKOS Separator prior to the bag filters, intending to extend bag life and improve operating efficiency. After only one year in operation, the separator was found to be so efficient in removing sand from the produced water that the bag filter system could be *completely eliminated*.

In addition to eliminating the costly bag system, the separator protects the hydrocyclone from extensive wear, extending its operational life and increasing performance. Due to the high velocities required in the hydrocyclone, sand in the system produces considerable wear. In the system, produced water is fed first through the LAKOS Separator, then to the oil-water hydrocyclone. Sand is removed from the produced water, keeping it out of the injection well system and protecting the hydrocyclone.

The results have been dramatic. In operation for more than four years, the separator reduced system maintenance significantly, freeing staff time for other operational tasks. Installation cost savings were remarkable, with the initial cost of the LAKOS Separator less than 15 percent of the cost of the bag filtration system. A second system has been installed at a neighboring location.

Anderson Exploration had stringent pressure requirements for this filtration system. The LAKOS unit incorporated at Anderson was able to meet the 600 psi requirements, as well as handling the corrosive nature of the fluid. Chief Operator Brad Smith has been exceptionally pleased with the operational improvements achieved with the LAKOS Separator. Bag filters have been eliminated, along with their extensive maintenance. The LAKOS Separator was easily installed, and has low operating costs.



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