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all things flow

Pump provides an economical solution to pumping gas.

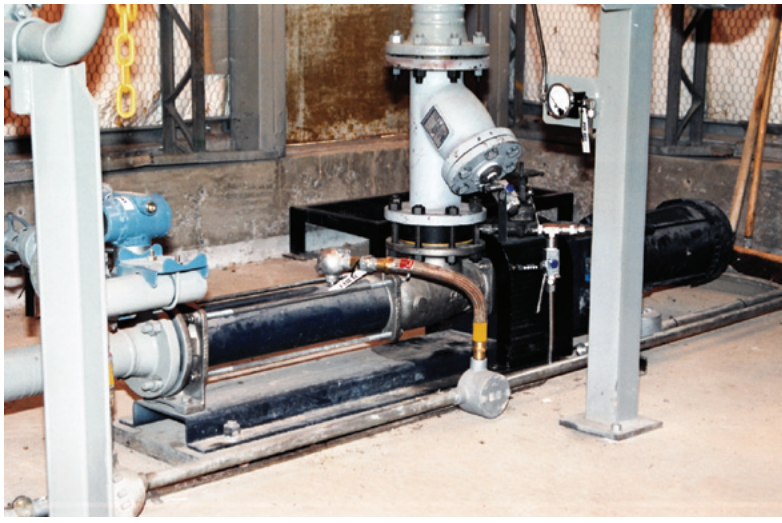
The Anschutz Ranch in Evanston Wyoming is an old gas field that has been operating for almost twenty years. The natural gas is trapped in the porous rock like water in a sponge. As the gas is removed it also draws out a large amount of ground water.

When the field was first developed it had a natural pressure of over 700 psi. The natural gas, water and other hydrocarbons were moved through the field pipelines by the natural pressure of the field. Slowly the natural pressure in the field dropped.

The starting situation

Eventually, it became necessary to use compressed air to push the natural gas and hydrocarbons out of the rock formation. The air would then push the natural gas, hydrocarbons and water through the porous rock to an extraction point. At first, the added production more than paid for the additional cost of large compressors and to separate the air, water and natural gas. But the economics of the field changed. As the natural gas in the field became further depleted a significantly greater amount of compressed air was needed and the process was no longer feasible.

In 2000, BP had a challenge to improve production and keep the field profitable. At this point it became evident, that the compressed air was traveling through the more porous areas of the rock formation where the natural gas had already been removed. Also, where the formation was less porous and contained large amounts of very high quality gas, the compressed air was not effective. If the injection into the formation was to be discontinued, then the higher quality gas would come out naturally, however, the volume would be lower. It was determined that the benefits of this high quality natural gas would offset the cost of operating the compressors. Dropping the field pressure would mean that the gas, hydrocarbons and water mixture would need to be pumped across the field. This would require a unique pump.



seepex progressive cavity pumps offer a wide range of cost effective pumping solutions for boosting and transfer of oil, gas and produced water

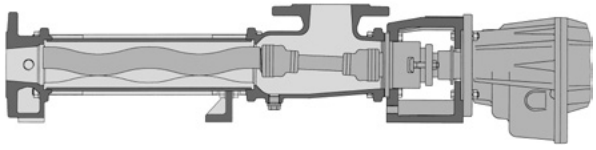
The solution
After investigating many different types of pumps, the one that best met the requirements was a seepex progressive cavity pump with an NPSHR of less than seven feet. The seepex pump is efficient to operate and economical to install.

The benefit
The pumps operated in high fluid vapor pressure and low atmospheric pressure. The altitude at the site is approximately 7000 feet above sea level. Other pumps would have required that they be placed at much lower levels than seepex pumps due to NPSHR considerations. In the Rocky Mountain region of Wyoming the added cost of blasting and excavating several feet of almost solid rock is phenomenal.

After the pumps had been put into operation, the customer commented that the seepex pumps were one of the best investments they had made. At this point the pumps are entering into their fourth year of trouble free operation.

Key Facts
- Efficiently operation
- Economical installation

Significant Cost Savings
- Low maintenance
- Low purchase investment



Installed Pump Type
- Range BN

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