

AMERICAN

LONGWALL

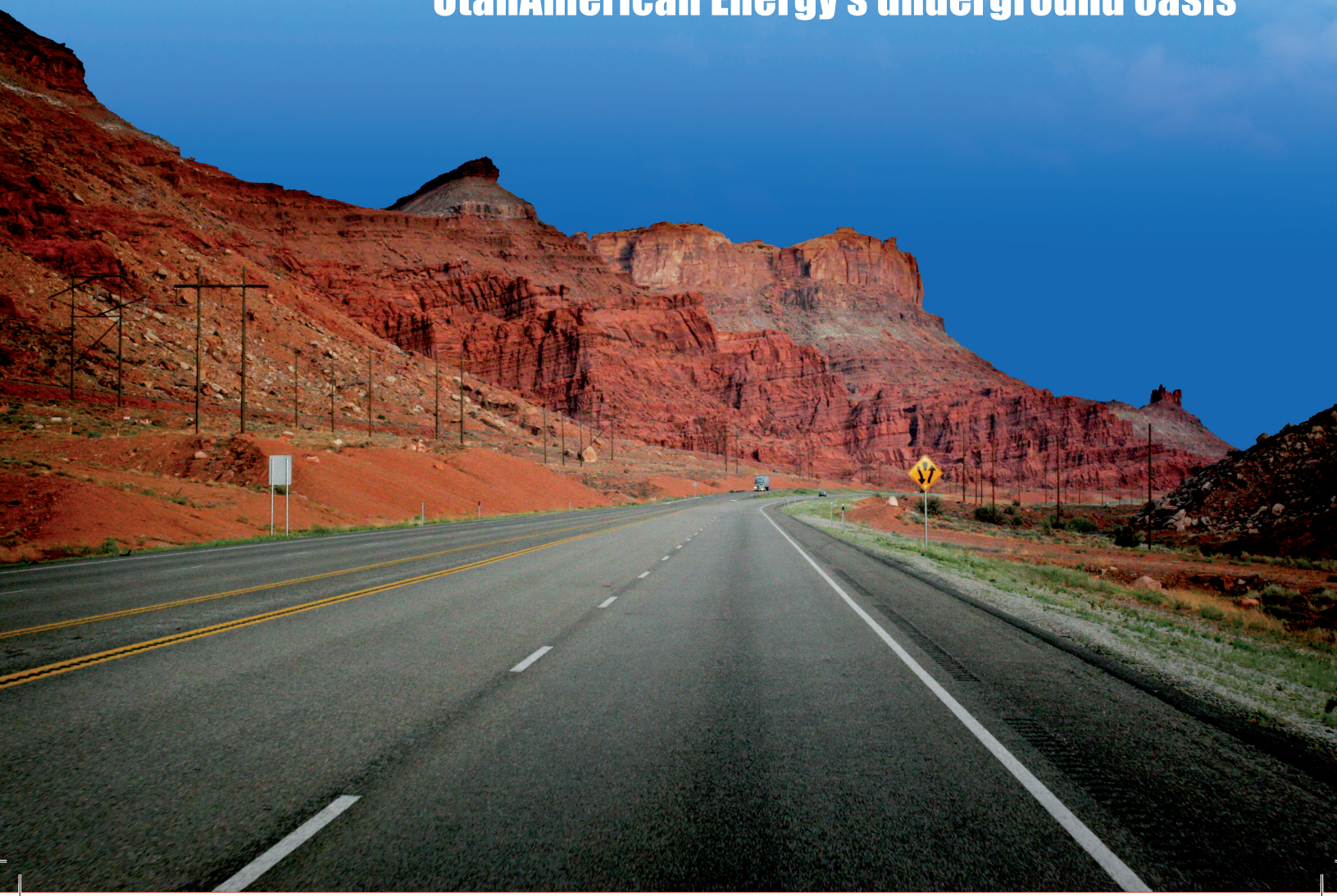
MAGAZINE

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Road to the great American dream:

Utah American Energy's underground oasis



Massey comes clean on fluid

MASSEY Energy is one of the largest coal mining companies in the eastern US, with mining operations at 19 locations and annual coal production exceeding 40 million tons. Massey managers pride themselves on using a "hands-on" style, working with employees to achieve high levels of safety and efficiency at the company's operations. Part of that safety improvement process has also been working closely with suppliers.

One recent example of a successful operation-supplier relationship has been with Quaker Chemical, according to Massey chief operating officer and senior vice president Chris Adkins.

Massey recently started using Quaker's fire resistant hydraulic fluid Quintolubric 814-02, which Adkins has found not only improves the safety of Massey's operations, but has also paid for itself with the amount of money saved.

"We expect ongoing support from our suppliers to help us meet our goal of being the best coal mine operators in the world. Quaker Chemical Corporation has provided the support and assistance to help reduce our costs by increasing our productivity and by reducing down time and maintenance requirements," Adkins said.

For Quaker also, it rates a high level of service and support as an essential component of the supplier's role.

"Change is never an easy process and when evaluating the possibility of changing longwall fluid it requires consideration from

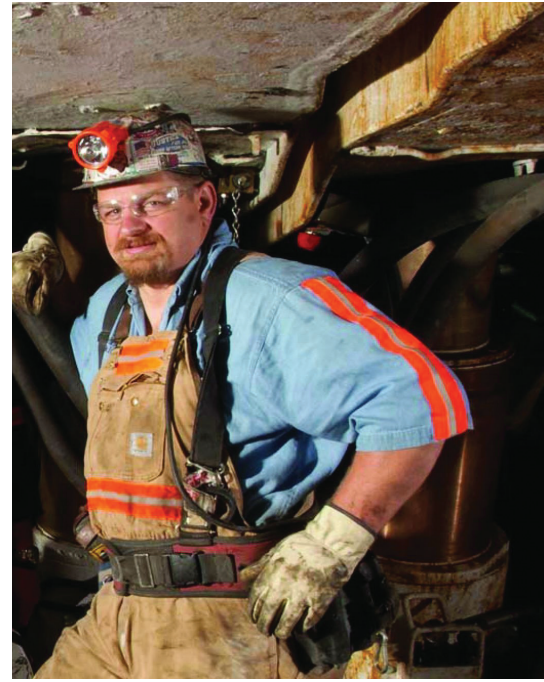
various levels of management. On the surface there appears to be great risk while in fact not choosing to evaluate other advanced technology available may pose equal or greater risk," Quaker business director of hydraulic fluids and lubricants Kevin Dickey said.

"When evaluating longwall fluid and other industrial lubricants more than the fluid itself should be evaluated — things such as service and support. These are just as important as proper fluid and lubricant selection."

Some of the most important functions of a hydraulic fluid occur in the longwall system where it provides pressure to the hydraulic cylinders responsible for advancing the shield over the mining equipment, pushing the face conveyor forward to the next cut, and controlling roof and floor movements. The longwall hydraulic fluid must provide lubrication of the hydraulic cylinders; maintain a consistency that allows effective filtering to remove contaminant particles and dirt; and prohibit the growth of bacteria and fungi in the working fluid.

"The fluid we use must exhibit low toxicity and be biodegradable to avoid negative health, safety and environmental impact. Product stability must be high to allow numerous cycles while retaining the preceding performance characteristics," Adkins said.

The Quintolubric 814-02 fluid has also improved the cleanliness of the solenoid valves used in Massey's hydraulic system. By



Massey chief operating officer and senior vice president Chris Adkins.

using Quintolubric 814-02, Massey has been able to significantly reduce maintenance and solenoid failure rate. These improvements have led to an increase in longwall operation production and an increase in the mines' profitability.

"The use of superior fire resistant hydraulic fluids is a critical element in the achievement of our safety objectives in our longwall operations. All of our longwall operations now experience longwall fluid systems with no bacteria and fungi as well as no scum build-up or deposits. We experienced bacteria levels as high as 109 and today we are at zero. This has been a tremendous benefit towards protecting our workers health and safety while simultaneously lowering filter consumption," Adkins said.

Safety has not been the only benefit since switching fluids. "Each of our longwall operations experienced high levels of solenoid consumption. We experienced solenoids sticking due to deposits. Since changing to Quaker's Quintolubric longwall fluids, we have achieved more than 80% reduction in solenoid consumption, and our solenoids upon inspection appear in very good condition.

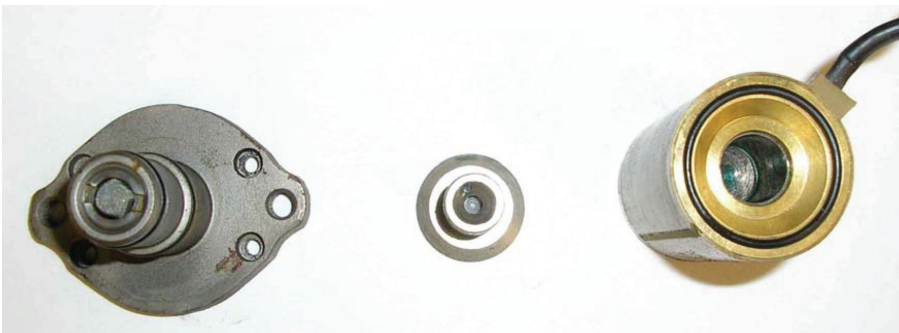
"The benefits of improved solenoid life translate into improved operational efficiencies. Our shield technicians used to spend a lot of their time changing solenoids during a shift. Now they can focus their time on more productive work. Additional savings are realized simply by not being required to purchase such large quantities of solenoids."

"To quote one worker, 'in the past we could not keep enough solenoids in stock, since changing to Quaker the shelves are full,'" he said.

Quaker offers a complete line of synthetic lubricants designed specifically for the mining industry, including Quintolubric longwall fluids and MineTech synthetic lubricants.



Before: Solenoid after 90 days use with previous fluid.



After: Solenoid after 90 days using Quintolubric 814-02.