

CASE STUDY



LONGWALL ROOF SUPPORT

QUINTOLUBRIC® 814-02

CHALLENGES

Massey Energy works to achieve the highest level of efficiency and safety in their longwall operations. Part of achieving efficient and safe operations is selecting a hydraulic fluid that provides:

- » Lubrication of pumps, cylinders and valves
- » Effective filtering to remove contaminant particles and dirt
- » Reduced growth of bacteria and fungi in the working fluid

Massey requires the hydraulic fluid to provide exceptionally high performance characteristics by exhibiting the following:

- » Low toxicity and biodegradability to improve health and safety
- » Product stability to allow numerous cycles

Quaker wanted to show that QUINTOLUBRIC® 814-02 could not only meet these requirements but also reduce costs through increased productivity and reduced downtime and maintenance requirements.

THE SOLUTION

Since selecting QUINTOLUBRIC® 814-02 Massey has seen dramatic improvements in the following areas:

- » Reduction in fluid maintenance
- » Increase in longwall operation
- » Increase in the mine's profitability

Before using QUINTOLUBRIC® 814-02 Massey's longwall operation experienced high levels of solenoid consumption and solenoid sticking.

Since switching to QUINTOLUBRIC® 814-02 they have achieved the following results:

- » More than 80% reduction in solenoid consumption
- » Improved operational efficiency
- » Reduction in solenoid changes during a shift
- » Increased savings from reductions in solenoid purchases



Before: Solenoid after 90 days use with previous fluid



After: Solenoid after 90 days use QUINTOLUBRIC® 814-02

Massey also experienced bacteria levels as high as 10⁹. Since switching to QUINTOLUBRIC® 814-02 they have achieved the following results:

- » Elimination of bacteria, fungi, scum build up, and deposits in longwall fluid systems
- » Improved protection of workers health and safety
- » Lower filter consumption

THE PRODUCT

HFA fluids are hydraulic fluids for use in equipment designed to operate with low-viscosity high water content fluids. QUINTOLUBRIC® 814-02 is a high water based (HFA) hydraulic fluid concentrate designed for use in longwall shields.

Quaker's QUINTOLUBRIC® "Clean Green" Longwall Fluids offer these seven major benefits:

- » Biodegradable
- » No bacteria scum
- » No corrosion
- » Non-toxic
- » Non-hazardous
- » Fire resistant
- » Odor free



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Quaker Chemical markets several HFA products for various applications including the brand names QUINTOLUBRIC® 807 for commercial applications, and QUINTOLUBRIC® 814 and QUINTOLUBRIC® 818 for longwall mining applications. These products outperform competitive products in stability, bio-resistance and corrosion prevention with low applied costs.

THE EXPERTISE

QUINTOLUBRIC® is Quaker Chemical's family of specialty, fire-resistant hydraulic fluids. For more than 30 years, Quaker Chemical has been a leading supplier of specialty hydraulic fluids, and the QUINTOLUBRIC® brand is recognized around the world as the name for high-quality, high performance, fire-resistant and environmentally compatible fluids. Accomplishments in the longwall industry include no reported incidence of bacterial growth for over 15 years. In addition to these accomplishments, QUINTOLUBRIC® has an exemplary record of customer retention, among the highest for longwall hydraulic fluid suppliers.