

## MAG-SHIELDS® Protect the Hydraulic Systems of a CAT 994H Loader

### The Problem

October 2019

Hydraulic system reliability and durability were being compromised by heavily contaminated oil resulting in premature failures and reduced component life for CAT 994H loaders at an Australian mine site. All main hydraulic circuits share a common reservoir and hydraulic fluid. Contamination created by the failure of any one component can contribute to wear in other parts of the hydraulic system. The majority of the contamination produced by this type of failure is ferrous.

### The Solution

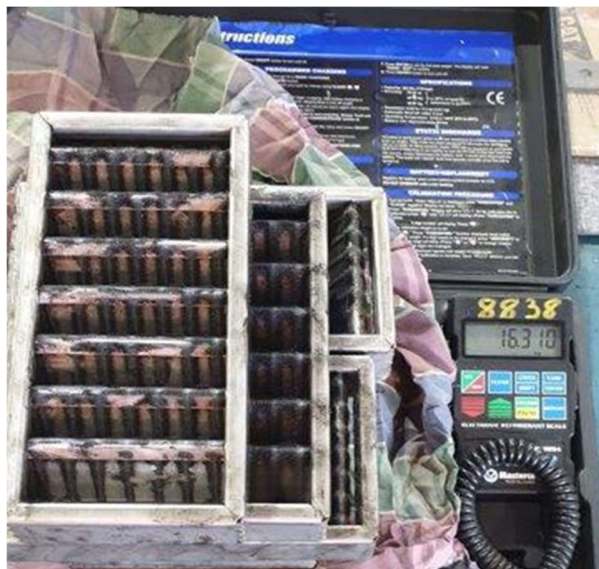
Installation of BAY6 Solutions' Mag-Shield magnetic filters provides additional filtration for the main hydraulic system and significantly reduces the costs and frequency of system failures. As contaminated hydraulic fluid returns to the hydraulic reservoir, ferrous material is captured by the Mag-Shields before it can spread to the rest of the system. Following repairs, residual contamination is captured and prevented from recirculating. Having the ability to filter ferrous contamination out of the oil results in much cleaner oil. This reduces component wear which results in increased component life and lower frequency of failures,



**Ferrous material from normal operation trapped on a Mag-Shield® in the hydraulic reservoir of a CAT 994H.**

### The Results

These images represent Mag-Shield performance over a period of 5000 hours, in a 994H loader operating at an Australian mine site. During this timeframe, there were no failures within the hydraulic system. Over the course of normal operation, 110 grams of ferrous material was collected by the Mag-Shields. Capturing the material that is produced during normal operation is key to improving oil cleanliness and component life, which helps mitigate failures. The result: less disruption for operations, planning and maintenance; improved availability and significant savings.



**Dirty MAG-SHIELD® after 5180 hours of normal operation (No Failure) (16.31 kg)**



**Clean MAG-SHIELD® indicating 110 grams of ferrous material contamination (16.20 kg)**