



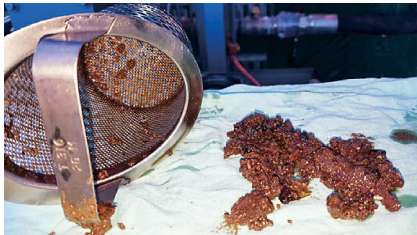
MINING COMPANY UNEARTHS BIG SAVINGS WITH ISOCLEAN® CERTIFIED LUBRICANTS*

“ Over \$105,000 savings in the first 10 months... and more to come. ”

*Mine Manager
Integrated Copper Mining Company*



Bulk storage tanks refitted with desiccant breathers.



Solid contaminants removed from bulk storage tanks.



Bottom of bulk storage tanks after cleaning.

**Contact us to learn more about
Chevron ISOCLEAN®
Certified Lubricants:**

**www.chevronlubricants.com/ISOCLEAN
Chevron Customer Sales Department
1-866-354-4476
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The Challenge

A fully integrated copper mining company with smelting and refining operations had observed high ISO Cleanliness particle counts on both its new and in-service lubricants. In an effort to extend equipment component life and reduce unscheduled downtime, the maintenance department approached their Chevron Lubricants representative to discuss possible solutions. To further understand the scope of the situation, the team agreed to complete a Chevron Best-in-Class (BIC) site assessment. The average ISO Cleanliness Code found was 22/21/17.

Investigation and Site Assessment

A team of Chevron lubrication experts completed the BIC site assessment at the mine. This entailed evaluating product selection, product integrity, lubricant service intervals, inventory management, vendor performance, and lubrication program management. A key observation was that the cleanliness of the lubricants from the bulk storage tanks to the equipment was not meeting the required ISO Cleanliness Code set by the Original Equipment Manufacturers (OEMs). The team also observed several ingress points for contaminants in the lubricant storage and dispensing path.

Solution – Start Clean and Stay Clean

To minimize the damaging effects of particle contamination the company implemented the Chevron ISOCLEAN Certified Lubricants Program. The Chevron Lubricant Marketer is now providing ISOCLEAN certified lubricants on all deliveries. Products include diesel engine oil Chevron Delo® 400 SDE 15W40 - ISOCLEAN Certified, hydraulic fluid Chevron Delo TorqForce™ SAE 10 - ISOCLEAN Certified, transmission fluid Chevron Delo TorqForce SAE 30 - ISOCLEAN Certified, and final drive fluid Chevron Delo TorqForce SAE 60 - ISOCLEAN Certified. In addition to clean oil they improved the storage and handling by adding desiccant breathers to the storage tanks, cleaning the tank bottoms and adding last chance filtration at dispensing nozzles.

Results – Reduced Maintenance Costs and Unscheduled Downtime

The company is now meeting the lubricant cleanliness requirements of 18/16/13 set by the OEMs. Based on the 10 month historical look back the company has reduced component wear as observed in its used oil analysis results. This data enabled the mine to extend engine life and component rebuild intervals on three primary pieces of equipment and resulted in \$105,000 of savings. The company is looking to expand this program throughout its network, which will have a major savings impact on component replacement cost and increase in asset utilization.

*Actual savings vary depending on equipment type, equipment condition and previous condition, and the ability to keep the fluid clean.



CLEAN. REDEFINED.