



START CLEAN. STAY CLEAN.

Stop wear and protect your equipment.

Particle contamination is the #1 cause of lubricant-related equipment failure.¹ Making informed lubricant choices today has a direct effect not only on your equipment life and the reliability of your hydraulic machinery, but also on your mining operation's bottom line, its reputation and its long-term success.



IDENTIFYING THE SOURCE OF CONTAMINATION

It's estimated that as much as 82% of component wear is particle-induced, with abrasion wear accounting for two-thirds of that figure.¹ What's worse, particles in contaminated lubricants can stop mining equipment by damaging the individual components that keep equipment running.

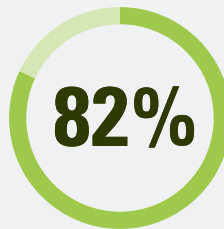
A CHAIN REACTION BEGINS

The precision component interaction of hydraulic machinery means that multiple parts have to work together seamlessly to perform at their best. Even a tiny number of particles invisible to the naked eye can grind the integrity of a machine until it ultimately breaks down.

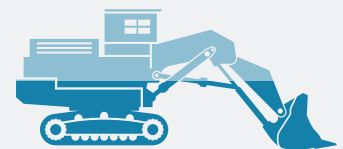
And the impact goes far beyond parts and labor. As repair costs and downtime go up, equipment reliability, profit potential and employee morale go down. And that puts your business's reputation, its future opportunities and its bottom line at risk.

#1
CAUSE

of lubricant-related failures
in hydraulic equipment
is contamination¹



of mechanical wear
is due to particle
contamination²



47%

of machinery breakdowns
at mines are triggered by
hydraulic failures



CLEAN. REDEFINED.



TAKE A TYPICAL HYDRAULIC SHOVEL...

...WITH AN UNEXPECTED HYDRAULIC HOSE FAILURE

HOSE/FITTINGS PARTS COST **\$1k**

HYDRAULIC OIL TOP-OFF **\$15k** 1500 GAL @ \$10/GAL

MAINTENANCE LABOR **\$1k** 10 HRS @ \$100/HR

LOST TIME **\$40k** 10 HRS @ \$4K/HR (INCLUDES OPERATOR TIME)



*Costs and pricing may vary.

HOW TO REDUCE CONTAMINANT-CAUSED WEAR

1. START CLEAN

Every delivery of Chevron ISOCLEAN® Certified Lubricants is tested using multiple methods and certified to meet your equipment manufacturer's cleanliness and performance specifications—no onsite filtration required.

2. MONITOR OIL CONDITION

The Chevron LubeWatch® Oil Analysis program monitors the condition of your oil to identify wear trends. This helps inform a maintenance schedule that can reduce downtime, lower operational costs and help eliminate the risk of catastrophic failure.

3. STAY CLEAN

Developing corrective actions if contamination levels exceed limits is critical to reaching maximum component life. Chevron ISOCLEAN Services provide contamination control for your circulating lubrication systems.

To find a Chevron Lubrication Marketer near you, visit www.chevronlubricants.com/ISOCLEAN or call 1-866-354-4476



ABOUT CHEVRON ISOCLEAN CERTIFIED LUBRICANTS

Chevron Lubricants is the only major oil company to promote, certify and deliver certified clean lubricants which help you meet the OEM and equipment specifications at your location. Since launching its first lubricant product in 1907, Chevron Lubricants has been a premium global partner by developing breakthrough technologies to help customers reduce total cost of operation while improving the reliability, profitability and service life of equipment.

1. NORIA Corporation. 2. STLE/NRCC.
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