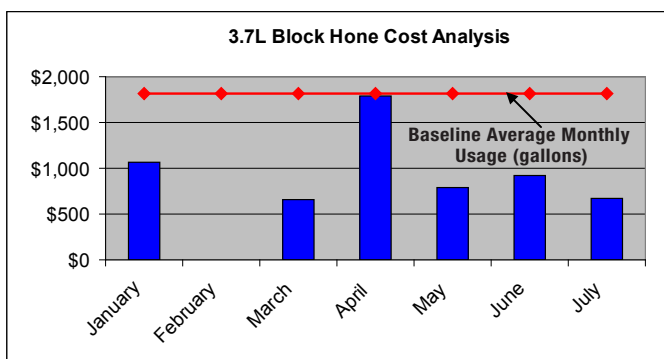
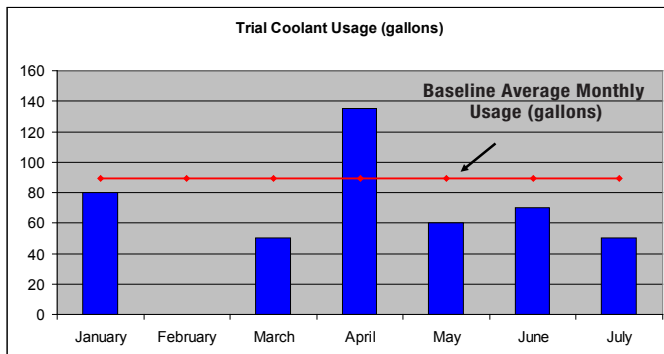


Challenges

A major automotive manufacturer was interested in reducing the annual coolant and operating costs of its 4,400 gallon central coolant system. This system, which feeds their Nagel hone for cast iron cylinder bores on the 3.7L cylinder blocks, was currently using a competitive coolant. Quaker approached the manufacturer, suggesting they switch from their current coolant to QUAKERAL® 381 SD. Quaker wanted to show by switching to QUAKERAL® 381 SD the manufacturer would not only be able to achieve \$7,700 in annual cost savings but also consolidate products.

Providing Solutions

Below are comparisons of the coolant usage and cost analysis of the baseline data and the results after the manufacturer performed a full dump, clean and re-charge of their 4,400 gallon central coolant system with QUAKERAL® 381 SD.



	Competitive Coolant	QUAKERAL® 381 SD
Coolant Cost	\$1,821/month	\$844.18/month
Annual Operating Cost	\$21,851	\$10,130

The conversion to QUAKERAL 381 SD has resulted in an annual cost savings to the manufacturer of \$11,721.

Product Description

QUAKERAL® 381 SD is a high-performance emulsifiable metalworking fluid designed for heavy-duty machining and grinding operations requiring a high degree of lubricity, cleanliness, cooling, and corrosion protection. It is recommended for critical surface finish machining of cast and wrought aluminum alloys, as well as more difficult machining, grinding, and honing operations on cast iron and steel alloys. This product is designed to control microbiological growth including Mycobacteria. QUAKERAL® 381 SD does not contain any chlorinated paraffin or any formaldehyde-donating compounds.

Process & Equipment

Part:	3.7 L Cylinder Blocks
Part Alloy:	Cast iron
System Size:	4,400 gallon central system
Water Hardness:	130 ppm
Concentration:	8 - 10%
Application Pressure:	50 psi
Filtration System:	Vacuum filter with 2.5 oz polypropylene paper media
Specific Operation:	Cast Iron Block Cylinder Bore Honing

Product & Process Expertise

Metalworking lubricants represent a very minor part of the costs in a metalworking process, typically less than 1%. This case illustrates the importance of correct fluid selection. The impact of the fluid can be a multiple of its costs, making the price of a metalworking fluid insignificant. That is why Quaker focuses on developing fluids with the highest performance without compromise, fluids that sharpen your competitive edge.

Quaker Chemical Management Services (QCMSSM) offers a full range of process expertise and support. Quaker programs are ISO 9001 certified and have received numerous supplier certifications and awards for excellence. QCMSSM provides a disciplined approach to controlling the acquisition, delivery, storage, application and disposal of process fluids.

Quaker Management Services provides:

- Inventory Management
- Process Monitoring
- Chemical Usage Reporting
- Chemical Sampling
- Knowledge Sharing
- Fluid Recycling
- Waste Management
- Technical Support
- Engineering Services