The Oil Report

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"Oil the News That's Fit to Print!"

What's with the Unit ID?

People are sometimes confused by what we mean when we ask for the "Unit ID" on the oil slip. The unit ID is a unique name that you come up with to identify the machine a particular sample came from. Think of it like a social security number for that machine (using no more than 13 characters).

BLACKSTONE LABORATORIES

It's important to try and be consistent with what you use for a unit ID. If, for example, you pull samples from several types of Kaeser compressors, calling a sample Kaeser BS 61 probably won't be descriptive enough (unless there is only one Kaeser BS 61 machine in the building). Try using the machine's serial number instead, or come up with a unique identifying system so you know, when we report back to you, which oil samples came from which machines. If someone else is pulling the samples, make sure they put

Spotlight on... Leakers!

by Jim Stark

For the want of a nail the shoe was lost. For want of a shoe the horse was lost. Eventually, in this time-worn refrain, the war was lost. I don't know that any of that actually happened, but it does make a very good point about the end result of paying attention to details.

For all the technological improvements that have made factories efficient and productive, we still find machines with pans underneath designed to capture oil leakage and other liquid products that no one wants cascading across the floor. There are still factories being built with throwaway wood block floors and other products that allow sectional replacement of floors that are ruined by machine leakage. Keeping the pans cleaned up and the floors serviceable is a mini-industry operating in most factory operations that has become as accepted as the oilers who keep the machines serviced in the first place. Those employed in these tasks are called nonproductive workers. It isn't that they don't work hard; it's that their work doesn't contribute to the value of the product being produced.

The non-productive workers who continually suck the waste oil out of the pans haul it to holding tanks where the product is held until it can be properly disposed of. Companies that handle the waste charge hefty fees for their work because they know their services are not only required, but there are liability issues involved. The factories that produce the waste are the "cradle to grave" owners of it, even though they lose control of it once it leaves their doors.

What if…?

If machines didn't leak, all the waste described above could be eliminated. Products could be made less expensively and sold for less, and profits would increase. This brings us back to why the lost horseshoe nail caused the loss of the war.

New machines delivered to factories don't leak. They are sealed

down the correct ID for each sample. It will save us all from the headaches of trying to figure out what's what!

up very well. The seals are lubricated by the oil they are designed to keep in place. The machine's seals only fail because the oil in the system isn't maintained in serviceable condition. Dirty oil abrades the seals, allowing oil to leak out of the system. When the oil in a machine is kept in pristine condition, the seals will last virtually forever.

The lost horseshoe nail is the lack of an oil maintenance program. Quality oil analysis is a vital part of that program.

The central focus of the Blackstone's industrial oil analysis program is determining the serviceability of hydraulic and lubricating oil. We do it through spectrographic analysis, physical testing, cleanliness ratings, and in some cases, a total acid rating to ensure acidic oil isn't eating up the oil seals. Regular and routine oil analysis can be provided at a fraction of the cost of waging a war with leaking machines. You can continue fighting the waste caused by leakers, or you can prevent it by keeping your oil in perfect condition through oil analysis. Win the war by using quality horseshoe nails for your horses!

Report of the Month

What's wrong with this water pump? See the caption below for an explanation.
Don't look right away -- take a good look at the report first.

(To learn where the various elements might be coming from, click here.)

Elements in Parts Per Million

MI/HR ON OIL		UNIT/ LOCATION AVERAGES					UNIVERSAL AVERAGES
MI/HR ON UNIT							
SAMPLE DATE							
ALUMINUM	360	1	**211**	2	0	1	1
CHROMIUM	2	0	1	1	0	1	0
IRON	254	22	**172**	**48**	**16**	25	22
COPPER	6	7	4	0	0	14	22
LEAD	1	0	**1**	**0**	**0**	0	3
TIN	21	0	12	4	0	2	3
MOLYBDENUM	1	0	1	0	0	0	0
NICKEL	5	0	3	0	0	0	0
POTASSIUM	0	0	0	0	0	0	0
BORON	1	5	0	0	0	0	11
SILICON	66	3	44	19	16	1	3
SODIUM	1	2	1	5	1	2	6
CALCIUM	0	19	0	5	3	11	38
MAGNESIUM	3	2	0	1	0	1	3
PHOSPHORUS	497	379	464	418	405	425	315
ZINC	939	99	838	913	82	507	69
BARIUM	1	1	1	1	1	1	3

Properties	TEST	cST VISCOSITY @ 40 C	SUS VISCOSITY@ 100 C	cST VISCOSITY@ 100 C	SUS VISCOSITY @ 210 F	FLASHPOINT IN F	FUEL %	ANTI-FREEZE %	WATER %	INSOLUBLES %
	VALUES SHOULD BE				85-110	>465	-	-	<0.1	<0.5
	TESTED VALUES WERE				79.4	460	-	-	0.0	0.5

This lube system is experiencing a bearing failure. The viscosity and insolubles are a result of the heat being generated by the bearing problem. When we look at oil to determine its serviceability, we often come across problems that are about to occur. In this case, the company was able to take the machine down over a holiday and have it repaired before a total failure occured. A failure would most likely have resulted in the loss of tens of thousands of dollars in lost productivity. The money spent on this oil sample may well have been the best money ever spent on this machine!

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