

COMMENTS

FRED: Most metals look good in this sample, though lead is a little out of balance compared to what we might expect from this engine. The lead can show bearing wear, so that'll be something to monitor carefully. If the oil pressure is okay, just check back to monitor this. Other metals are fine. Silicon was high, but this might be lingering wear-in material, so we'll look for that to improve with time. The viscosity was a little thin, but maybe the break-in additive you used accounts for that. No fuel, moisture, or coolant was found. Check back to watch lead.

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	238	UNIT / LOCATION AVERAGES					UNIVERSAL AVERAGES
	MI/HR on Unit	548						
	Sample Date*	12/01/14						
	Make Up Oil Added	0 qts						
ALUMINUM	3	3						6
CHROMIUM	0	0						2
IRON	8	8						33
COPPER	4	4						10
LEAD	23	23						12
TIN	4	4						2
MOLYBDENUM	97	97						57
NICKEL	1	1						1
MANGANESE	1	1						3
SILVER	0	0						0
TITANIUM	0	0						0
POTASSIUM	0	0						9
BORON	434	434						45
SILICON	69	69						21
SODIUM	4	4						41
CALCIUM	2564	2564						1987
MAGNESIUM	9	9						221
PHOSPHORUS	1116	1116						792
ZINC	1301	1301						944
BARIUM	0	0						1

Values
Should Be*

PROPERTIES	SUS Viscosity @ 210°F	56.2	59-65				
	cSt Viscosity @ 100°C	9.13	9.9-11.9				
Flashpoint in °F	415	>375					
Fuel %	<0.5	<2.0					
Antifreeze %	0.0	0					
Water %	0.0	<0.1					
Insolubles %	0.1	<0.6					
TBN							
TAN							
ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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