



OIL REPORT

LAB NUMBER: R19318

UNIT ID: 08 328XI

REPORT DATE: 6/14/2023

CLIENT ID: 66479

CODE: 20/88

PAYMENT: CC: MC

UNIT

MAKE/MODEL: BMW 3.0L (N52B30) I-6
FUEL TYPE: Gasoline (Unleaded)
ADDITIONAL INFO:

OIL TYPE & GRADE: Pentosin High Performance 5W/30
OIL USE INTERVAL: 10,141 Miles

CLIENT

COMMENTS

YANG: An oil run 10,141 miles didn't ask too much of this engine. We found increases in wear, but nothing that amounts to poor wear with regards to what's typical for the engine type. Remember averages are based on just a 6,800-mile run. With metals in a typical balance and at levels that are still in the ballpark of averages, nothing looks like a mechanical issue at this point. Fuel is the only contaminant, and a trace is mild enough it could be from normal use. The oil held up fine, keeping a normal viscosity. Check back in about 12,000 miles for an update.

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	10,141	UNIT / LOCATION AVERAGES	8,584	7,500				UNIVERSAL AVERAGES
	MI/HR on Unit	94,733		69,289	22,900				
	Sample Date	5/21/2023		9/3/2018	8/21/2013				
	Make Up Oil Added	0.50 qts		0.5 qts	1 qt				
	ALUMINUM	11	12	5	20				8
	CHROMIUM	1	1	0	1				0
	IRON	23	19	7	27				13
	COPPER	12	11	5	15				9
	LEAD	4	4	2	5				2
	TIN	2	3	1	5				1
ELEMENTS IN PARTS PER MILLION	MOLYBDENUM	41	24	5	27				80
	NICKEL	0	0	0	1				0
	MANGANESE	2	5	2	12				2
	SILVER	0	0	0	0				0
	TITANIUM	0	0	1	0				5
	POTASSIUM	1	3	2	6				2
	BORON	46	27	8	28				63
	SILICON	8	5	3	5				6
	SODIUM	8	75	6	212				14
	CALCIUM	2676	2572	2642	2399				2237
	MAGNESIUM	99	144	24	308				253
	PHOSPHORUS	857	820	743	859				819
	ZINC	994	920	805	961				955
	BARIUM	0	0	0	0				0

Values
Should Be*

PROPERTIES	SUS Viscosity @ 210°F	64.0	56-68	61.4	61.1			
	cSt Viscosity @ 100°C	11.33	9.1-12.7	10.60	10.54			
	Flashpoint in °F	380	>385	405	405			
	Fuel %	TR	<2.0	<0.5	<0.5			
	Antifreeze %	0.0	0.0	0.0	0.0			
	Water %	0.0	<0.1	0.0	0.0			
	Insolubles %	0.2	<0.6	0.2	0.3			
	TBN				2.2			
	TAN							
	ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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