



OIL REPORT

LAB NUMBER: H99775 UNIT ID: 00 5281
 REPORT DATE: 12/19/2016 CLIENT ID: 103579
 CODE: 63/32 PAYMENT: CC: Visa

UNIT	MAKE/MODEL: BMW 2.8L (M52B28) I-6	OIL TYPE & GRADE: Kendall Synthetic 5W/30
	FUEL TYPE: Gasoline (Unleaded)	OIL USE INTERVAL: 8,000 Miles
	ADDITIONAL INFO:	

CLIENT	BILL GOSMA	PHONE: (408) 569-3804
	3862 SAN PABLO AVENUE	FAX:
	OCEANSIDE, CA 92057	ALT PHONE:
		EMAIL: bill.gosma@gmail.com

COMMENTS BILL: We found some excess copper and lead in this sample from your 528i. Those two metals together often show wear at bronze parts, and with lead reading higher than copper, this may indicate bearing wear, although there are other possible sources as well. The other metals look okay, especially given the long oil change interval (averages in the far right column are based on just ~5,900 miles of oil use), so aside from the copper and lead, we don't see any obvious issues. Still, we can't say for sure there's not a problem; cut back to 6,000 miles to monitor.

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	8,000	UNIT / LOCATION AVERAGES						UNIVERSAL AVERAGES
	MI/HR on Unit	88,000							
	Sample Date	12/17/2016							
	Make Up Oil Added	0 qts							
ALUMINUM	4	4							3
CHROMIUM	0	0							1
IRON	7	7							9
COPPER	12	12							5
LEAD	16	16							3
TIN	1	1							1
MOLYBDENUM	14	14							76
NICKEL	1	1							0
MANGANESE	0	0							1
SILVER	0	0							0
TITANIUM	17	17							1
POTASSIUM	5	5							2
BORON	20	20							60
SILICON	4	4							5
SODIUM	47	47							19
CALCIUM	1660	1660							2218
MAGNESIUM	10	10							184
PHOSPHORUS	558	558							804
ZINC	668	668							963
BARIUM	2	2							0

Values Should Be*

PROPERTIES	SUS Viscosity @ 210°F	59.7	54-61					
	cSt Viscosity @ 100°C	10.12	8.5-10.8					
	Flashpoint in °F	430	>365					
	Fuel %	<0.5	<2.0					
	Antifreeze %	0.0	0.0					
	Water %	0.0	<0.1					
	Insolubles %	0.2	<0.6					
	TBN							
	TAN							
	ISO Code							

* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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