



# OIL REPORT

LAB NUMBER: D94975      UNIT ID: 08 M3  
 REPORT DATE: 11/16/2009      CLIENT ID: 37968  
 CODE: 20/286      PAYMENT:

<b>UNIT</b>	MAKE/MODEL: BMW 4.0L (S65) V-8	OIL TYPE & GRADE: Gasoline Engine Oil
	FUEL TYPE: Gasoline (Unleaded)	OIL USE INTERVAL: 5,900 Miles
	ADDITIONAL INFO:	

<b>CLIENT</b>	BRDHNTR	PHONE:
		FAX:
		ALT PHONE:
		EMAIL:

**COMMENTS** BRDHNTR (amended report): Metals showed up a bit high here, and this is likely because the previous oil, as indicated, was run a long time. The engine was still wearing-in then, and the oil was chock-full of metal. Typically, upward to 20% of a given fill remains in the engine when the oil is changed, so that could account for the mildly high metals here. Aluminum is from pistons, iron is from cylinders and other steel parts, while lead is from bearings. The 3.2 TBN shows some active additive left (1.0 is the low cutoff). The viscosity was 20W/50. Try running 4-5K miles next OCI.

<b>ELEMENTS IN PARTS PER MILLION</b>	MI/HR on Oil	5,900	<b>UNIT / LOCATION AVERAGES</b>					<b>UNIVERSAL AVERAGES</b>
	MI/HR on Unit	22,500						
	Sample Date	11/15/09						
	Make Up Oil Added							
ALUMINUM	9	9						3
CHROMIUM	0	0						0
IRON	18	18						7
COPPER	6	6						3
LEAD	18	18						6
TIN	5	5						1
MOLYBDENUM	3	3						65
NICKEL	0	0						1
MANGANESE	1	1						0
SILVER	0	0						0
TITANIUM	0	0						0
POTASSIUM	4	4						1
BORON	73	73						60
SILICON	5	5						6
SODIUM	7	7						5
CALCIUM	1570	1570						2308
MAGNESIUM	621	621						248
PHOSPHORUS	845	845						843
ZINC	1068	1068						984
BARIUM	0	0						0

Values Should Be\*

<b>PROPERTIES</b>	SUS Viscosity @ 210°F	91.0					
	cSt Viscosity @ 100°C	18.22					
	Flashpoint in °F	410	>365				
	Fuel %	<0.5	<2.0				
	Antifreeze %	0.0	0.0				
	Water %	0.0	<0.1				
	Insolubles %	0.3	<0.6				
	TBN	3.2					
	TAN						
	ISO Code						

\* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

416 E. PETTIT AVE. FORT WAYNE, IN 46806 (260) 744-2380 www.blackstone-labs.com