



# OIL REPORT

LAB NUMBER: J76994

UNIT ID: 07 Z4M

REPORT DATE: 11/15/2017

CLIENT ID: 68352

CODE: 20/32

PAYMENT: CC: Visa

**UNIT**

MAKE/MODEL: BMW 3.2L (S54B32) I-6  
FUEL TYPE: Gasoline (Unleaded)  
ADDITIONAL INFO:

OIL TYPE & GRADE: Castrol TWS 10W/60  
OIL USE INTERVAL: 7,500 Miles

**CLIENT**

EVAN LERNER  
4 ROLLING RIDGE CT  
MOUNT KISCO, NY 10549

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**COMMENTS**

EVAN: Most wear metals are close to how the engine wore in years past, but lead does stand out at 34 ppm. If all of this lead is from the engine, it shows a large increase in rod/main bearing wear, and the rod bearings are always a point of concern for the S54. Lead has harmless sources too, such as fuel from the race track and some types of octane booster additives. One high lead reading isn't enough for us to call certain trouble, but it bears close monitoring. Keep an ear out for unusual noises and check back in 3,000 miles. We'll keep our fingers crossed for a drop in lead.

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	7,500	UNIT / LOCATION AVERAGES	7,000	7,500				UNIVERSAL AVERAGES
	MI/HR on Unit	68,000		47,270	39,000				
	Sample Date	11/10/2017		10/27/2014	10/25/2013				
	Make Up Oil Added	0 qts		0 qts	0 qts				
	ALUMINUM	4		4	4				
	CHROMIUM	0		1	0				
	IRON	12		13	13				
	COPPER	3		3	3				
	LEAD	34		8	5				
ELEMENTS IN PARTS PER MILLION	TIN	0	UNIT / LOCATION AVERAGES	1	0				UNIVERSAL AVERAGES
	MOLYBDENUM	152		130	1				
	NICKEL	0		1	1				
	MANGANESE	1		1	1				
	SILVER	0		0	0				
	TITANIUM	35		34	0				
	POTASSIUM	0		3	4				
	BORON	32		37	76				
	SILICON	8		3	4				
	SODIUM	9		16	7				
	CALCIUM	2556		2374	1436				
	MAGNESIUM	12		176	585				
	PHOSPHORUS	786		739	818				
	ZINC	935		916	966				
	BARIUM	0		0	0				

Values  
Should Be\*

PROPERTIES	SUS Viscosity @ 210°F	82.2	80-100	84.1	86.4			
	cSt Viscosity @ 100°C	16.07	15.5-20.6	16.55	17.11			
	Flashpoint in °F	395	>375	365	355			
	Fuel %	<0.5	<2.0	0.5	1.0			
	Antifreeze %	0.0	0.0	0.0	0.0			
	Water %	0.0	0.0	0.0	0.0			
	Insolubles %	TR	<0.6	0.1	TR			
	TBN							
	TAN							
	ISO Code							

\* THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

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