POLARIS Laboratories

Lubricant Analysis Report

North America: +1-877-808-3750
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0	1	2	3	4
NORMAL		ABNORMAL		CRITICAL

Overall report severity based on comments.

Account Information		Component Information		Sample Information	
Account Number:	122750-0001-0000	Component ID:	8043 MERCEDES B180 (2015) E	Tracking Number:	P2324034779
Company Name:	ARCH OIL COMMENTS	Secondary ID:	1.6l 4cyl (M270), 122 HP	Lab Number:	Z-346116
Contact:		Component Type:	UNLEADED GASOLINE ENGINE	Lab Location:	Poznan
Address:		Manufacturer:	MERCEDES BENZ	Data Analyst:	KDN
Phone Number:		Model:	Information Requested	Sampled:	11-Aug-2023
		Application:	AUTOMOTIVE	Submitted:	28-Aug-2023
		Sump Capacity:	6 qt	Received:	05-Sep-2023
				Completed:	06-Sep-2023

Filter Information		Miscellaneous Information		Product Information	
Filter Type:	Information Requested	Wildcard 1:	Mobil 1 FS 0W-40	Product Manufacturer:	MOBIL
Micron Rating:	0	Miscellaneous:	70% city driving, 25% country road, 5% Autobahn, 287h total	Product Name:	ESP
				Viscosity Grade:	SAE 0W40

Comments

Check for source of FUEL LEAK. Fuel is at a SIGNIFICANT LEVEL. Fuel dilution may be caused by component faults related to injectors, ignition/timing or excessive blow-by. Additional causes include heavy throttle application, engine lugging, frequent short trips, and excessive idling. OXIDATION is at a SEVERE level. Drain interval may be over-extended or unit may be running too hot. Elevated Oxidation causes acid by-products, deposits, and sludge, and can increase viscosity and wear. FUEL DILUTION has caused viscosity to decrease moderately; FUEL DILUTION reduces the viscosity of the lubricant which decreases FILM STRENGTH and LUBRICITY and may lead to increased wear. Acid Number is SLIGHTLY HIGH, which may be due to oxidation, contamination with an acidic product, extended drain interval, or lubricant mixing. Please provide COMPONENT MODEL number to compare data to the correct standards for this component. Lubricant and filter change acknowledged. Resample at half interval.

	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)						Additive Metals (ppm)				
Sample #	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	12	0	0	1	3	0	0	0	0	0	12	4	2	0	66	2	1	0	196	19	2890	0	949	1054

	Sample Information							Contaminants			Fluid Properties					
Sample #	Date Sampled	Date Received	Lube Time km	Unit Time km	Lube Change	Lube Added qt	Filter Change	Fuel Dilution %	Soot %	Water %	Viscosity 40°C cSt	Viscosity 100 °C cSt	Acid Number mg KOH / g	Base No. D4739 mg KOH / g	Oxidation abs / cm	Nitration abs / 0.1mm
1	11-Aug-2023	05-Sep-2023	9754	48107	Yes	0	Yes	4.2 - GC	<.1	<.1 - FTIR	56.8	10.8	5.64	6.08	**31**	18

	Particle Count (particles/mL)										Additional Testing
Sample #	ISO Code Based On 4/6/14	> 4 particles / mL	> 6 particles / mL	> 10 particles / mL	> 14 particles / mL	> 21 particles / mL	> 38 particles / mL	> 70 particles / mL	> 100 particles / mL	Test Method	Viscosity Index Index Number
1	/ /										185