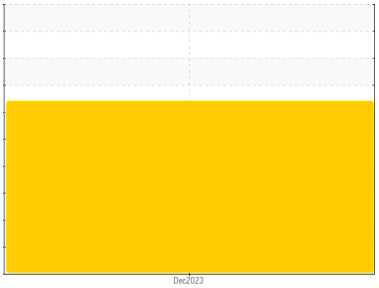
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
MERCEDES-BENZ NO UNIT WC0892280
Component
Gasoline Engine
Fluid
NOT GIVEN (--- LTR)

DIAGNOSIS

Recommendation

Taking the sample cold limits the accuracy of our diagnosis. We advise that you check for the source of the coolant leak. We advise that you check for visible metal particles in the oil. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition. Advise you send the oil filter for a more detailed analysis of the wear situation that is occurring in this component. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

Nickel ppm levels are abnormal. Moderate concentration of visible metal present. Bearing wear is indicated. Piston, ring and cylinder wear is indicated. Exhaust valve wear is indicated. The ferrography results are normal indicating no abnormal wear in the system.

Contaminants

Test for glycol is positive. Light fuel dilution occurring. There is a light concentration of glycol present in the oil. No other contaminants were detected in the oil.

Oil Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0892280**	---	---
Sample Date		Client Info		**22 Dec 2023**	---	---
Machine Age	kms	Client Info		**97640**	---	---
Oil Age	kms	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**ABNORMAL**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**23**	---	---
Iron	ppm	ASTM D5185(m)	>150	**47**	---	---
Chromium	ppm	ASTM D5185(m)	>20	**0**	---	---
Nickel	ppm	ASTM D5185(m)	>5	▲ **5**	---	---
Titanium	ppm	ASTM D5185(m)		**0**	---	---
Silver	ppm	ASTM D5185(m)	>2	**0**	---	---
Aluminum	ppm	ASTM D5185(m)	>40	**10**	---	---
Lead	ppm	ASTM D5185(m)	>50	**4**	---	---
Copper	ppm	ASTM D5185(m)	>155	**132**	---	---
Tin	ppm	ASTM D5185(m)	>10	**9**	---	---
Antimony	ppm	ASTM D5185(m)		**0**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

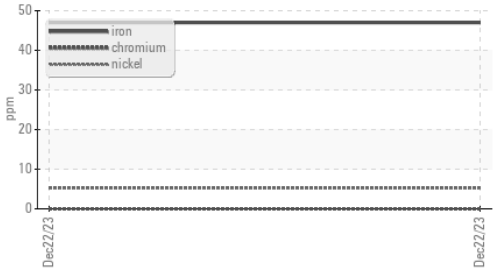
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**1**	---	---
Barium	ppm	ASTM D5185(m)		**0**	---	---
Molybdenum	ppm	ASTM D5185(m)		**<1**	---	---
Manganese	ppm	ASTM D5185(m)		**<1**	---	---
Magnesium	ppm	ASTM D5185(m)		**10**	---	---
Calcium	ppm	ASTM D5185(m)		**996**	---	---
Phosphorus	ppm	ASTM D5185(m)		**230**	---	---
Zinc	ppm	ASTM D5185(m)		**194**	---	---
Sulfur	ppm	ASTM D5185(m)		**2858**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>30	**5**	---	---
Sodium	ppm	ASTM D5185(m)	>400	**<1**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**2**	---	---
Fuel	%	ASTM D7593*	>4.0	▲ **3.3**	---	---
Glycol	%	ASTM D7922*		▲ **0.011**	---	---

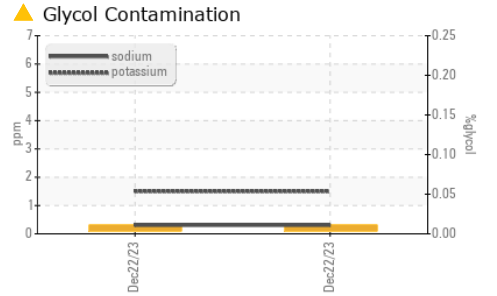
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	---	---
Nitration	Abs/cm	ASTM D7624*	>20	**4.8**	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**13.1**	---	---

OIL ANALYSIS REPORT

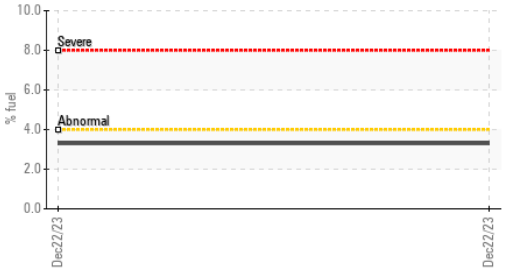
Ferrous Alloys



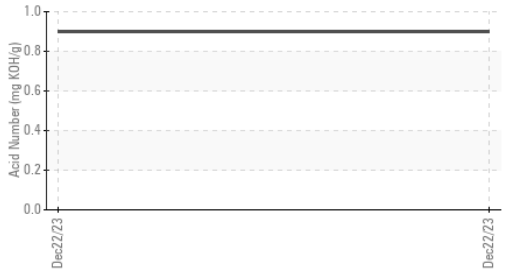
Glycol Contamination



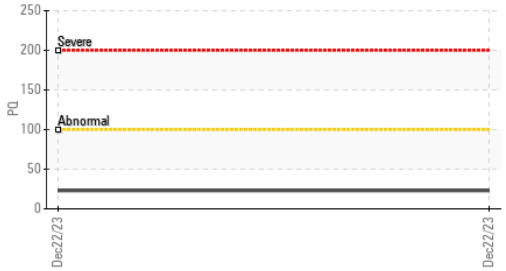
Fuel Dilution



Acid Number



PQ



FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**5.5**	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.90**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896*		**2.81**	---	---

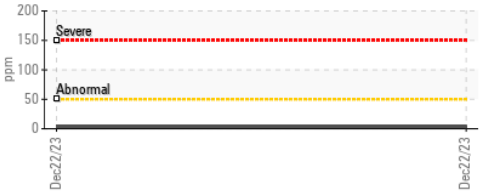
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	▲ **LTMOD**	---	---
Yellow Metal	scalar	Visual*	NONE	▲ **LIGHT**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	---	---
Emulsified Water	scalar	Visual*	>0.2	**NEG**	---	---
Free Water	scalar	Visual*		**NEG**	---	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)		**10.1**	---	---

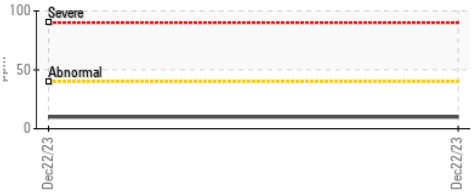
GRAPHS

Iron (ppm)

Lead (ppm)



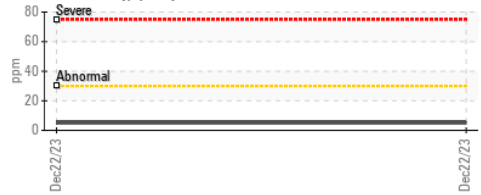
Aluminum (ppm)



Chromium (ppm)

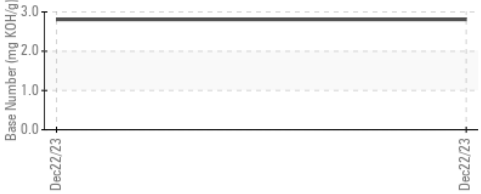
Copper (ppm)

Silicon (ppm)



Viscosity @ 100°C

Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0892280 **Recieved** : 27 Dec 2023
Lab Number : 02605285 **Diagnosed** : 04 Jan 2024
Unique Number : 5698370 **Diagnostician** : Kevin Marson
Test Package : MOB 3 (Additional Tests: BottomAnalysis, FILTERPATCH, FUELDILUTION, GLYCOL, PercentFuel, TAN AUTO,

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

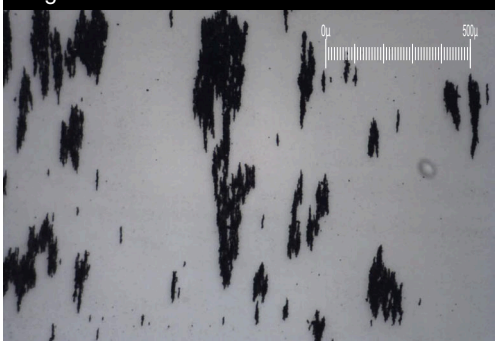
Mercedes Benz Canada
10 Coachworks Cres.
Brampton, ON
CA L6R 3Y2
Contact: Joseph Lagrasta
JLagrasta@mbbrampton.ca
T: (905)793-9055
F:

FERROGRAPHY REPORT

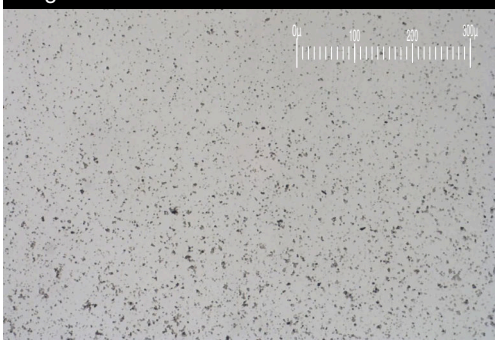
Machine Id
MERCEDES-BENZ NO UNIT WC0892280
Component
Gasoline Engine
Fluid
NOT GIVEN (--- LTR)

Magn: 200x Illum: BC

Magn: 50x Illum: RW



Magn: 100x Illum: RW

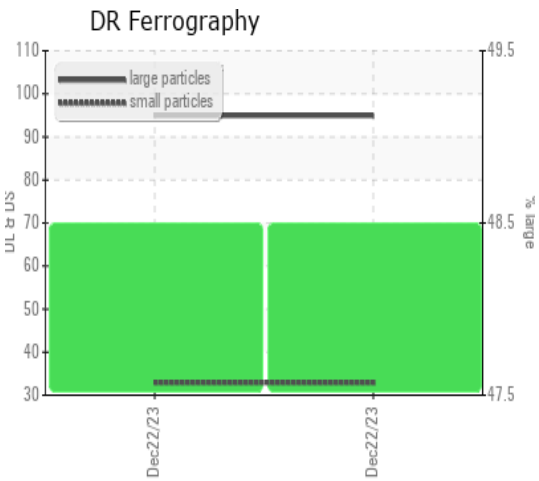


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		**94.9**	---	---
Small Particles		DR-Ferr*		**32.9**	---	---
Total Particles		DR-Ferr*	>---	**127.8**	---	---
Large Particles Percentage	%	DR-Ferr*		**48.5**	---	---
Severity Index		DR-Ferr*		**5884**	---	---

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*				
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*				
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*				
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Lubricant Degradation	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*				
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*				

WEAR

Nickel ppm levels are abnormal. Moderate concentration of visible metal present. Bearing wear is indicated. Piston, ring and cylinder wear is indicated. Exhaust valve wear is indicated. The ferrography results are normal indicating no abnormal wear in the system.



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