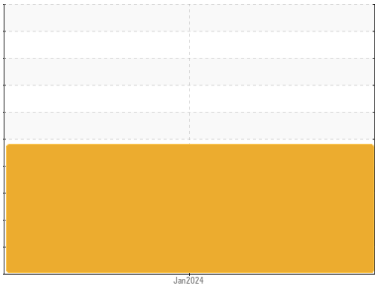
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Area
[207145]
Machine Id
42
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

DIAGNOSIS

Recommendation

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. Re-sampling is suggested to confirm test results prior to significant maintenance activities being performed. Please indicate that this is a resample on your Sample Information Form (SIF). The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.

Wear

Light concentration of visible metal present. The ferrography results are normal indicating no abnormal wear in the system.

Contaminants

Test for glycol is positive. There is a light concentration of glycol present in the oil.

Oil Condition

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		**CU0022123**	---	---
Sample Date		Client Info		**17 Jan 2024**	---	---
Machine Age	hrs	Client Info		**0**	---	---
Oil Age	hrs	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**ABNORMAL**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	---	---
Water		WC Method	>0.2	**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>90	**15**	---	---
Chromium	ppm	ASTM D5185(m)	>20	**<1**	---	---
Nickel	ppm	ASTM D5185(m)	>2	**<1**	---	---
Titanium	ppm	ASTM D5185(m)	>2	**0**	---	---
Silver	ppm	ASTM D5185(m)	>2	**0**	---	---
Aluminum	ppm	ASTM D5185(m)	>20	**8**	---	---
Lead	ppm	ASTM D5185(m)	>40	**1**	---	---
Copper	ppm	ASTM D5185(m)	>330	**<1**	---	---
Tin	ppm	ASTM D5185(m)	>15	**<1**	---	---
Antimony	ppm	ASTM D5185(m)		**0**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

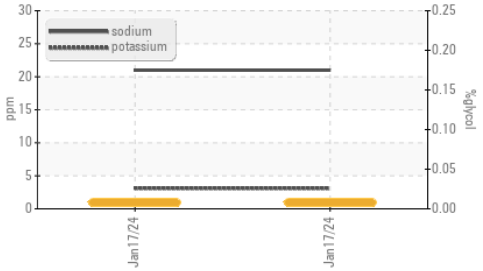
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	**53**	---	---
Barium	ppm	ASTM D5185(m)	10	**0**	---	---
Molybdenum	ppm	ASTM D5185(m)	100	**88**	---	---
Manganese	ppm	ASTM D5185(m)		**0**	---	---
Magnesium	ppm	ASTM D5185(m)	450	**37**	---	---
Calcium	ppm	ASTM D5185(m)	3000	**2124**	---	---
Phosphorus	ppm	ASTM D5185(m)	1150	**977**	---	---
Zinc	ppm	ASTM D5185(m)	1350	**1096**	---	---
Sulfur	ppm	ASTM D5185(m)	4250	**3162**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**11**	---	---
Sodium	ppm	ASTM D5185(m)	>216	▲ **21**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**3**	---	---
Glycol	%	ASTM D7922*		▲ **0.012**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**0.2**	---	---
Nitration	Abs/cm	ASTM D7624*	>20	**8.4**	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**20.3**	---	---

OIL ANALYSIS REPORT

▲ Glycol Contamination



Viscosity @ 100°C

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**14.9**	---	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	▲ **LIGHT**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
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**	---	---

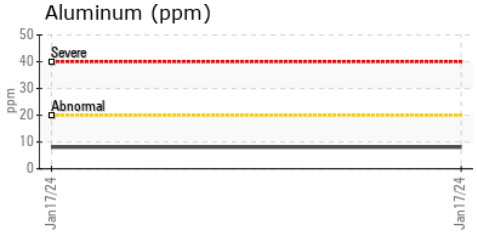
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	**14.5**	---	---

GRAPHS

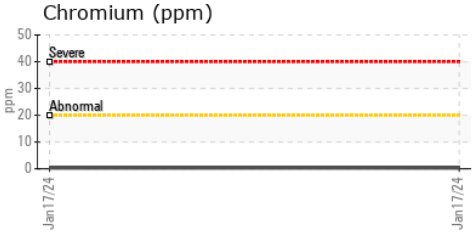
Iron (ppm)

Lead (ppm)

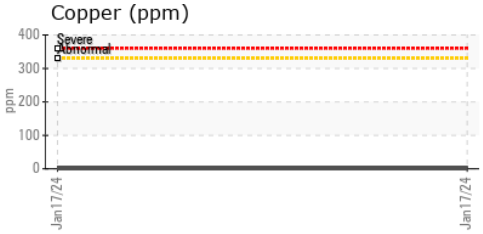
Aluminum (ppm)



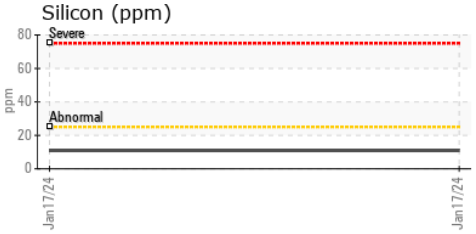
Chromium (ppm)



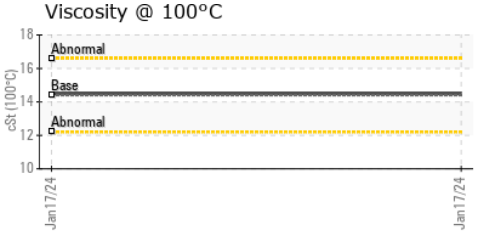
Copper (ppm)



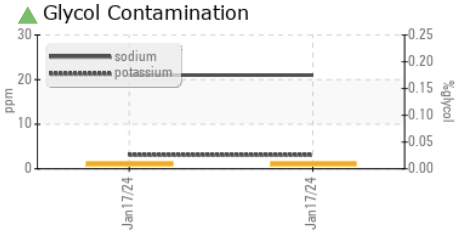
Silicon (ppm)



Viscosity @ 100°C



▲ Glycol Contamination



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : CU0022123 **Recieved** : 18 Jan 2024
Lab Number : 02609666 **Diagnosed** : 25 Jan 2024
Unique Number : 5710752 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: A-Ferr, BottomAnalysis, FILTERPATCH, Glycol, Visual)

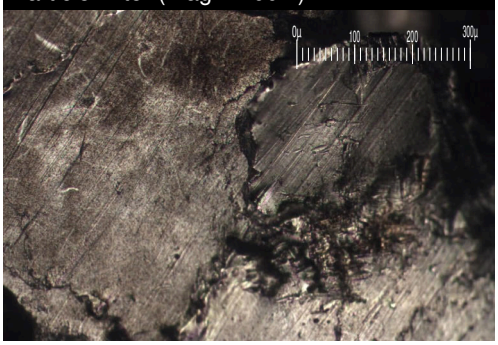
To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

CUMMINS CANADA ULC
7200 TRANS CANADA HWY.
POINTE CLAIRE, QC
CA H9R 1C2
Contact: Guy Emond
guy.emond@cummins.com
T: (514)695-8410
F: (514)695-5246

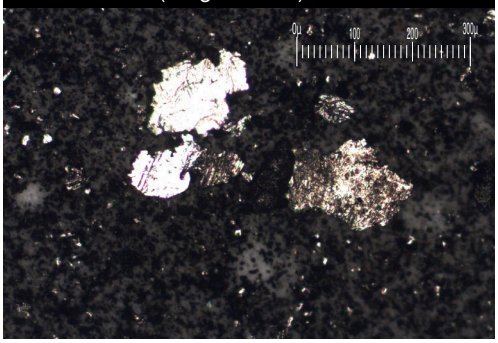
PARTICLE FILTER REPORT

Area
[207145]
Machine Id
42
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

Particle Filter (Magn: 100 x)



Particle Filter (Magn: 100 x)



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

Light concentration of visible metal present. The ferrography results are normal indicating no abnormal wear in the system.

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