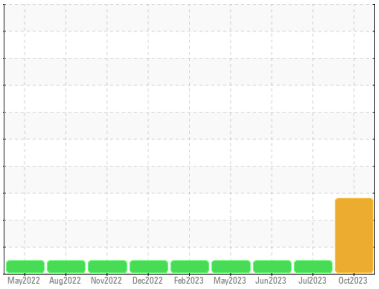
PROBLEM SUMMARY

Sample Rating Trend

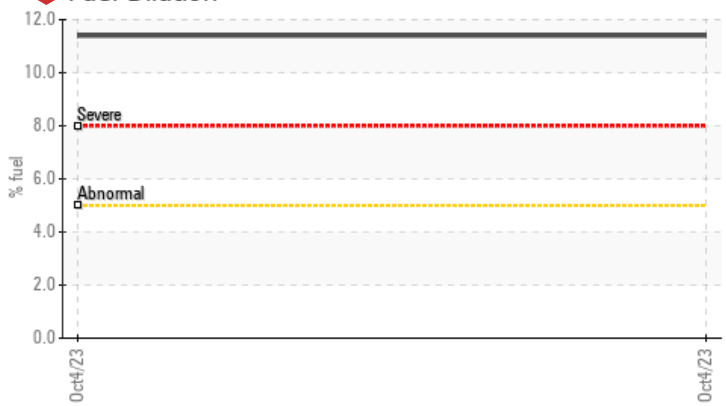


FUEL

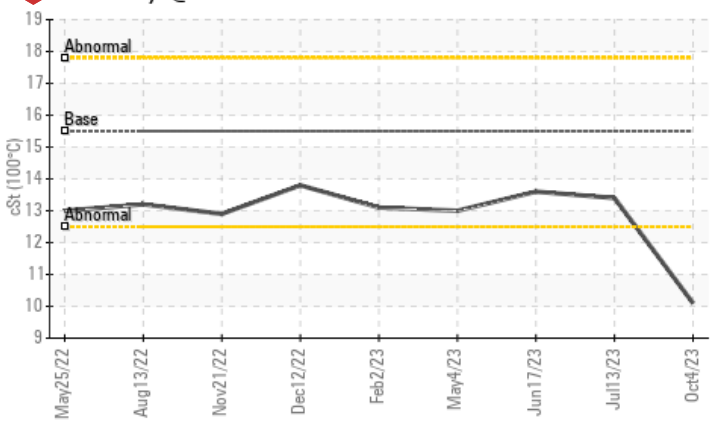
Machine Id
712027
Component
Diesel Engine
Fluid
CASTROL CRB Multi 15W-40 CK-4 (--- GAL)

COMPONENT CONDITION SUMMARY

Fuel Dilution



Viscosity @ 100°C



RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Fuel	%	ASTM D3524	>5	**11.4**	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	15.5	**10.1**	13.4	13.6

Customer Id: GFL821
Sample No.: GFL0090164
Lab Number: 05972501
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	MISSED	Oct 16 2023	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	MISSED	Oct 16 2023	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	MISSED	Oct 16 2023	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

13 Jul 2023 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

17 Jun 2023 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

04 May 2023 Diag: Wes Davis

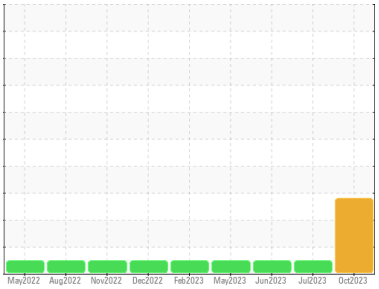
NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
712027
Component
Diesel Engine
Fluid
CASTROL CRB Multi 15W-40 CK-4 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0090164**	GFL0076772	GFL0065435
Sample Date		Client Info		**04 Oct 2023**	13 Jul 2023	17 Jun 2023
Machine Age	hrs	Client Info		**8301**	3856	3692
Oil Age	hrs	Client Info		**150**	200	150
Oil Changed		Client Info		**N/A**	Not Changd	N/A
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	**27**	8	6
Chromium	ppm	ASTM D5185m	>4	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>2	**0**	0	<1
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>25	**8**	21	11
Lead	ppm	ASTM D5185m	>45	**<1**	0	<1
Copper	ppm	ASTM D5185m	>85	**3**	<1	1
Tin	ppm	ASTM D5185m	>4	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**5**	0	<1
Barium	ppm	ASTM D5185m		**0**	0	4
Molybdenum	ppm	ASTM D5185m		**51**	60	56
Manganese	ppm	ASTM D5185m		**<1**	<1	1
Magnesium	ppm	ASTM D5185m		**769**	992	976
Calcium	ppm	ASTM D5185m		**844**	1114	1081
Phosphorus	ppm	ASTM D5185m		**850**	1059	1037
Zinc	ppm	ASTM D5185m		**1040**	1261	1254
Sulfur	ppm	ASTM D5185m		**2901**	3644	3642

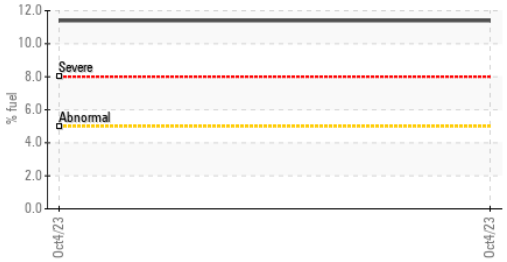
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**8**	3	3
Sodium	ppm	ASTM D5185m		**40**	5	4
Potassium	ppm	ASTM D5185m	>20	**6**	52	30
Fuel	%	ASTM D3524	>5	**11.4**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.9**	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**7.7**	6.9	6.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.1**	18.6	18.6

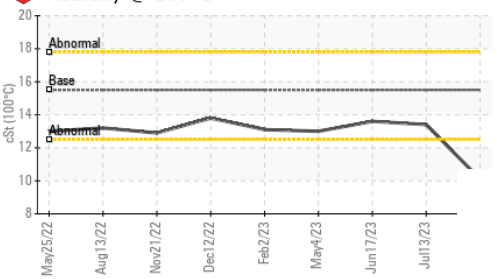
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.6**	14.5	14.2
Base Number (BN)	mg KOH/g	ASTM D2896	10	**7.7**	8.6	9.0

OIL ANALYSIS REPORT

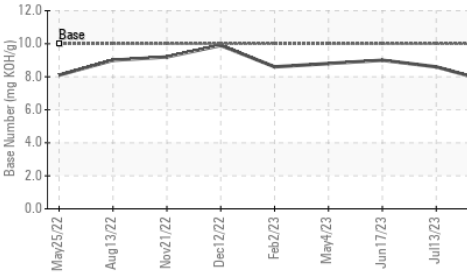
Fuel Dilution



Viscosity @ 100°C



Base Number

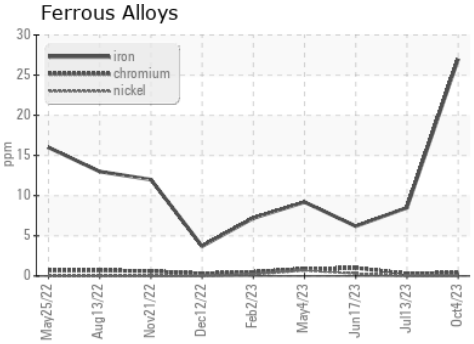


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

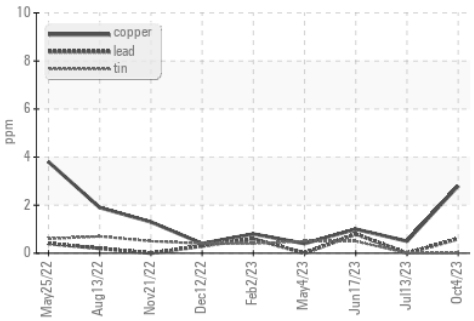
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.5	**10.1**	13.4	13.6

GRAPHS

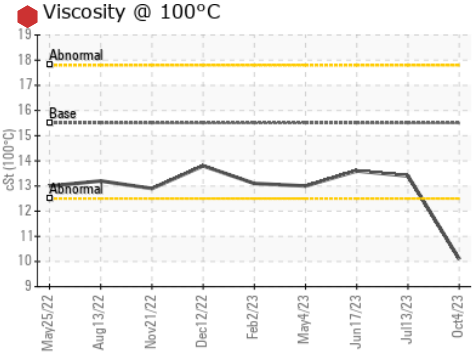
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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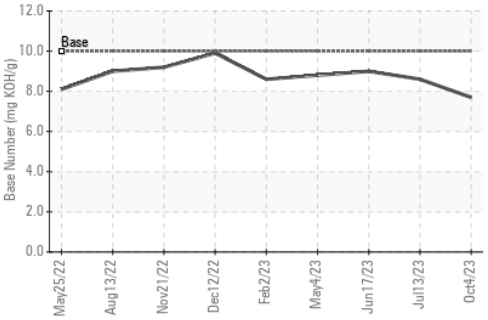

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0090164
Lab Number : 05972501
Unique Number : 10684451
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 09 Oct 2023
Diagnosed : 10 Oct 2023
Diagnostician : Wes Davis

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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