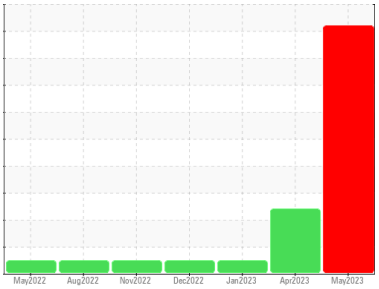
PROBLEM SUMMARY

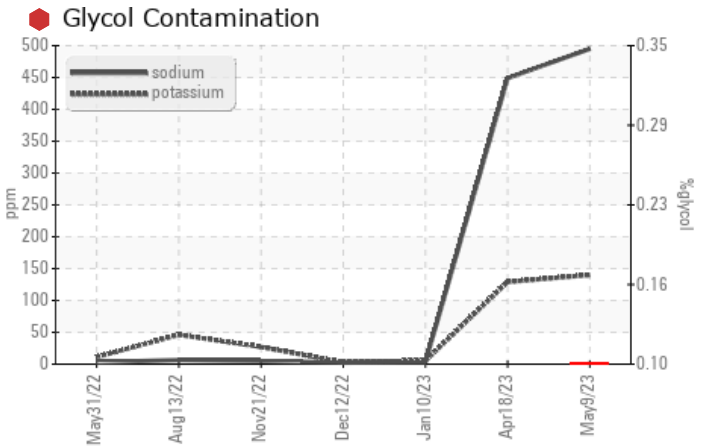
Sample Rating Trend



GLYCOL

Machine Id
711011
Component
Diesel Engine
Fluid
CASTROL CRB Multi 15W-40 CK-4 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	NORMAL
Molybdenum	ppm	ASTM D5185m		▲ **103**	97	59
Magnesium	ppm	ASTM D5185m		▲ **943**	909	945
Sodium	ppm	ASTM D5185m		▲ **495**	▲ 449	3
Potassium	ppm	ASTM D5185m	>20	▲ **140**	▲ 129	6
Glycol	%	*ASTM D2982		⬢ **0.10**	NEG	NEG

Customer Id: GFL821
Sample No.: GFL0076823
Lab Number: 05849380
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
Resample	MISSED	Jun 17 2023	?	We recommend an early resample to monitor this condition.
Check Fluid Source	MISSED	Jun 17 2023	?	Confirm the source of the lubricant being utilized for top-up/fill.
Check Glycol Access	MISSED	Jun 17 2023	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

18 Apr 2023 Diag: Jonathan Hester

GLYCOL

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels are high. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

10 Jan 2023 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.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

12 Dec 2022 Diag: Wes Davis

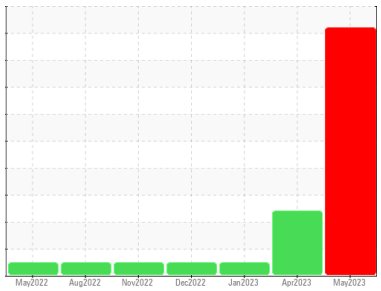
NORMAL

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.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



GLYCOL

Machine Id
711011
Component
Diesel Engine
Fluid
CASTROL CRB Multi 15W-40 CK-4 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0076823**	GFL0065398	GFL0065359
Sample Date		Client Info		**09 May 2023**	18 Apr 2023	10 Jan 2023
Machine Age	hrs	Client Info		**6345**	6208	5591
Oil Age	hrs	Client Info		**600**	200	200
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**SEVERE**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**27**	22	9
Chromium	ppm	ASTM D5185m	>20	**<1**	1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**9**	7	4
Lead	ppm	ASTM D5185m	>40	**0**	0	<1
Copper	ppm	ASTM D5185m	>330	**9**	8	<1
Tin	ppm	ASTM D5185m	>15	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**<1**	4	2
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		▲ **103**	97	59
Manganese	ppm	ASTM D5185m		**<1**	1	<1
Magnesium	ppm	ASTM D5185m		▲ **943**	909	945
Calcium	ppm	ASTM D5185m		**1091**	1025	1045
Phosphorus	ppm	ASTM D5185m		**999**	994	1041
Zinc	ppm	ASTM D5185m		**1234**	1205	1273
Sulfur	ppm	ASTM D5185m		**3300**	3540	3781

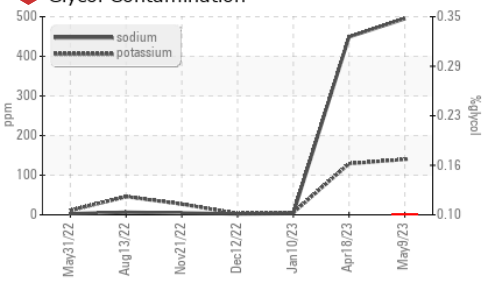
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**7**	6	4
Sodium	ppm	ASTM D5185m		▲ **495**	▲ 449	3
Potassium	ppm	ASTM D5185m	>20	▲ **140**	▲ 129	6
Glycol	%	*ASTM D2982		⬢ **0.10**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.7**	0.6	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**10.0**	8.5	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.9**	18.1	18.5

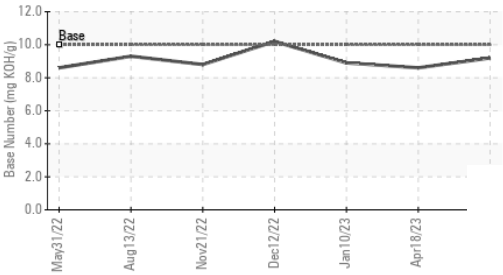
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.0**	14.1	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	10	**9.2**	8.6	8.9

OIL ANALYSIS REPORT

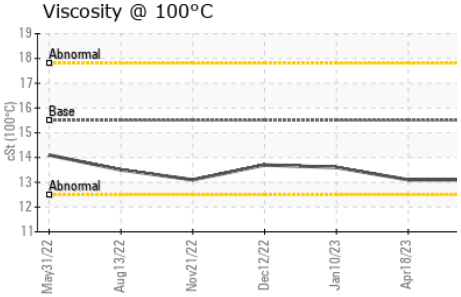
Glycol Contamination



Base Number



Viscosity @ 100°C

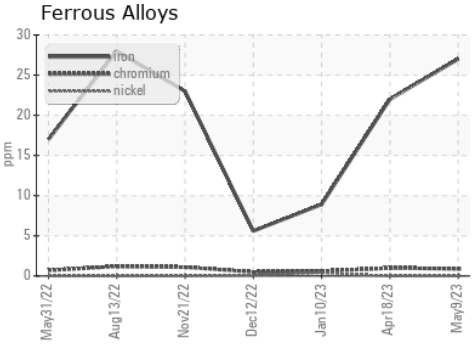


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

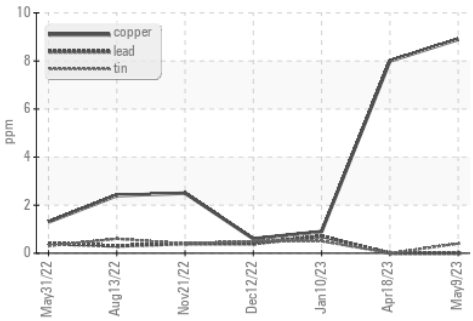
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.5	**13.1**	13.1	13.6

GRAPHS

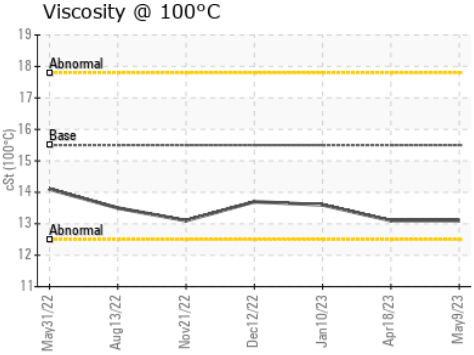
Ferrous Alloys



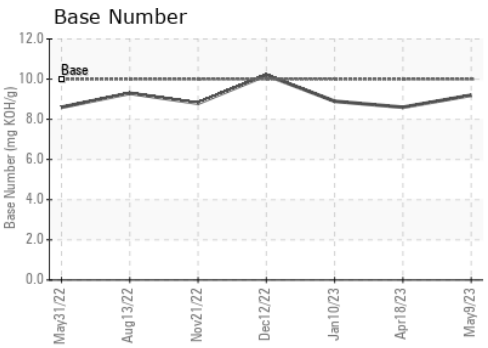
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0076823 **Received** : 17 May 2023
Lab Number : 05849380 **Diagnosed** : 19 May 2023
Unique Number : 10473487 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: Glycol)

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)

GFL Environmental - 821 - Ozarks Hauling
33924 Olath Drive
Lebanon, MO
US 65536
Contact: Landen Johnson
landen.johnson@gflenv.com
T: (417)664-0010
F: