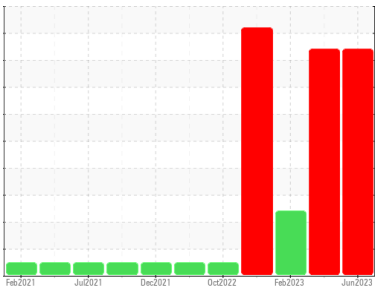
PROBLEM SUMMARY

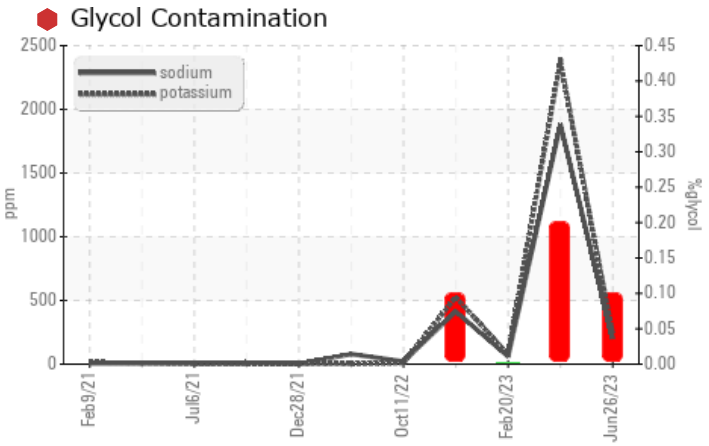
Sample Rating Trend



GLYCOL

Machine Id
727023-591
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. 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.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	ABNORMAL
Sodium	ppm	ASTM D5185m		▲ **203**	▲ 1879	▲ 60
Potassium	ppm	ASTM D5185m	>20	▲ **239**	▲ 2376	▲ 76
Glycol	%	*ASTM D2982		⬢ **0.10**	⬢ 0.20	0.0

Customer Id: GFL626
Sample No.: GFL0062185
Lab Number: 05886471
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	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Flush System	---	---	?	We advise that you flush the component thoroughly before re-filling with oil.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

12 Jun 2023 Diag: Don Baldridge

GLYCOL

We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels are high. There is a high concentration of glycol present in the 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.

view report

20 Feb 2023 Diag: Jonathan Hester

GLYCOL

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels remain high. Test for glycol is negative. 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

13 Feb 2023 Diag: Don Baldridge

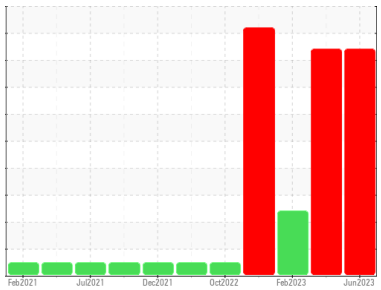
GLYCOL

We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal. Sodium and/or potassium levels are high. There is a high concentration of glycol present in the 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.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
727023-591
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. 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.

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
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	history 1	history 2
Sample Number		Client Info		**GFL0062185**	GFL0062225	GFL0062233
Sample Date		Client Info		**26 Jun 2023**	12 Jun 2023	20 Feb 2023
Machine Age	hrs	Client Info		**17022**	16923	16339
Oil Age	hrs	Client Info		**99**	584	16282
Oil Changed		Client Info		**N/A**	Changed	Not Changd
Sample Status				**SEVERE**	SEVERE	ABNORMAL

CONTAMINATION		method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	**12**	68	14
Chromium	ppm	ASTM D5185m	>20	**<1**	4	0
Nickel	ppm	ASTM D5185m	>4	**0**	1	0
Titanium	ppm	ASTM D5185m		**0**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**2**	6	2
Lead	ppm	ASTM D5185m	>40	**0**	<1	<1
Copper	ppm	ASTM D5185m	>330	**9**	71	72
Tin	ppm	ASTM D5185m	>15	**<1**	1	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m		**18**	52	9
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**74**	216	62
Manganese	ppm	ASTM D5185m		**<1**	3	1
Magnesium	ppm	ASTM D5185m		**919**	804	877
Calcium	ppm	ASTM D5185m		**1142**	1047	1143
Phosphorus	ppm	ASTM D5185m		**1020**	824	952
Zinc	ppm	ASTM D5185m		**1255**	1190	1160
Sulfur	ppm	ASTM D5185m		**3778**	3063	3199

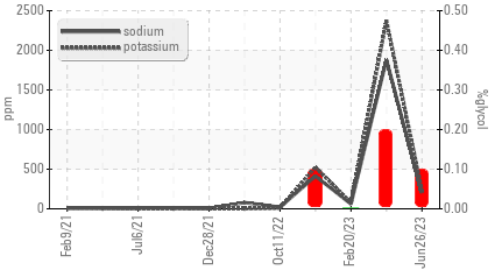
CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>25	**6**	36	5
Sodium	ppm	ASTM D5185m		▲ **203**	▲ 1879	▲ 60
Potassium	ppm	ASTM D5185m	>20	▲ **239**	▲ 2376	▲ 76
Glycol	%	*ASTM D2982		⬢ **0.10**	⬢ 0.20	0.0

INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>3	**0.2**	0.9	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**6.3**	18.0	5.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.0**	24.3	18.0

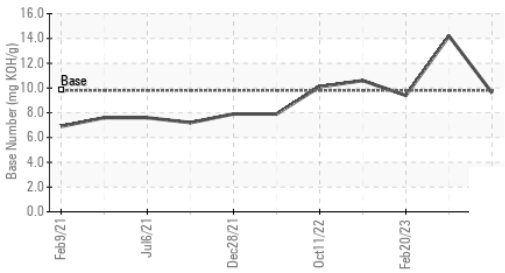
FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.9**	17.4	13.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**9.6**	14.2	9.4

OIL ANALYSIS REPORT

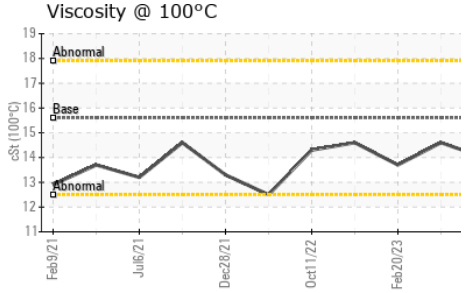
Glycol Contamination



Base Number



Viscosity @ 100°C

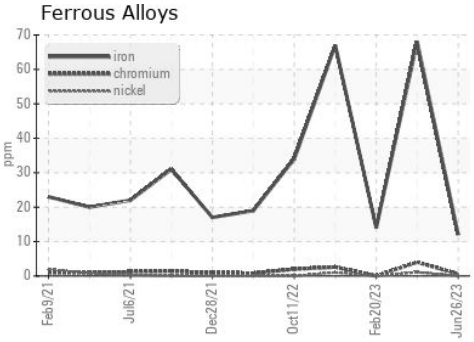


VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

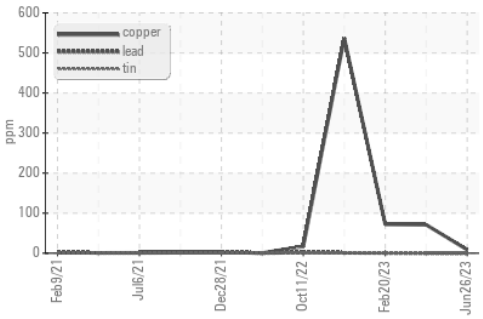
FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.6	**14.0**	14.6	13.7

GRAPHS

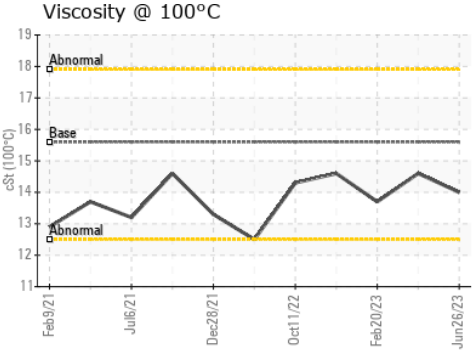
Ferrous Alloys



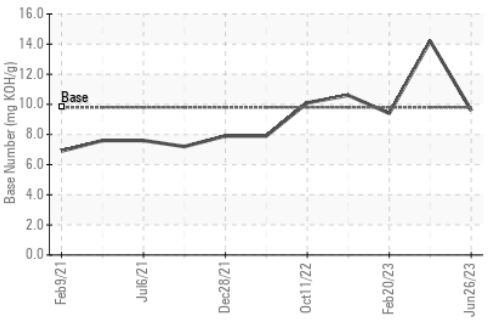
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0062185
Lab Number : 05886471
Unique Number : 10536954
Test Package : FLEET

Received : 29 Jun 2023
Diagnosed : 03 Jul 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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