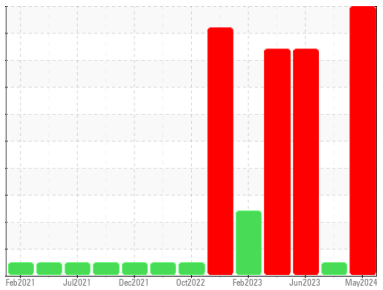
PROBLEM SUMMARY

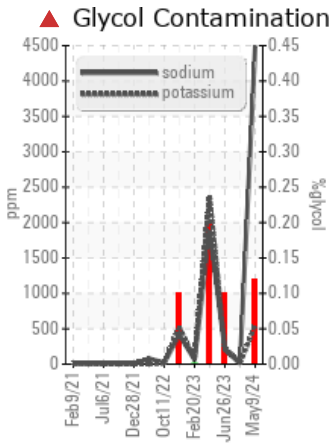
Sample Rating Trend

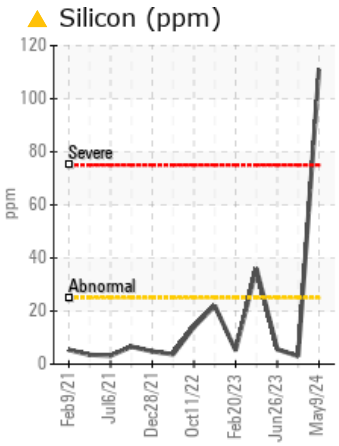


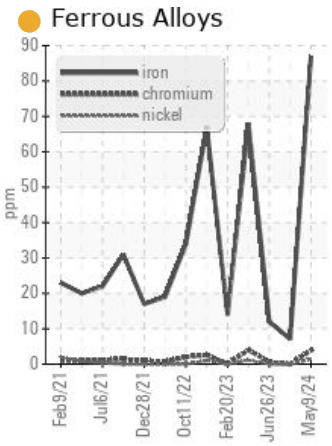
GLYCOL

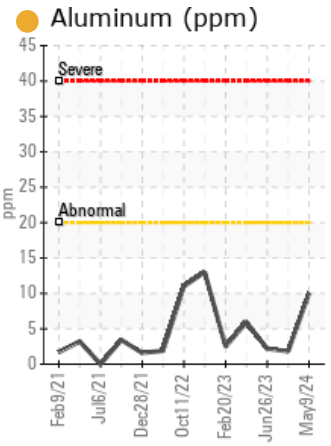
Machine Id
727023-591
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY









RECOMMENDATION

We advise that you check for the source of the coolant leak. We advise that you check all areas where dirt can enter the system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: Services completed)

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	SEVERE
Silicon	ppm	ASTM D5185m	>25	▲ **111**	3	6
Potassium	ppm	ASTM D5185m	>20	▲ **539**	12	▲ 239
Glycol	%	*ASTM D2982		▲ **0.12**	NEG	▲ 0.10
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **22.6**	8.8	9.6

Customer Id: GFL626
Sample No.: GFL0116243
Lab Number: 06178156
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Angela Borella +1 800-237-1369
angela.borella@wearcheckusa.com

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	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check all areas where dirt can enter the system.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

NORMAL

27 Nov 2023 Diag: Jonathan Hester
Resample at the next service interval to monitor.All component wear rates are normal. No evidence of coolant present in the oil. 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

GLYCOL

26 Jun 2023 Diag: Wes Davis
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.All component wear rates are normal. Test for glycol is positive. 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

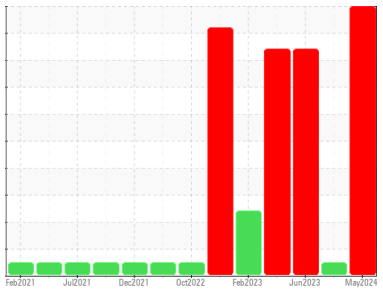
GLYCOL

12 Jun 2023 Diag: Don Baldridge
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

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 advise that you check all areas where dirt can enter the system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: Services completed)

Wear
All component wear rates are normal.

Contamination
Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The BN result is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0116243**	GFL0100046	GFL0062185
Sample Date		Client Info		**09 May 2024**	27 Nov 2023	26 Jun 2023
Machine Age	hrs	Client Info		**18962**	18043	17022
Oil Age	hrs	Client Info		**467**	137	99
Oil Changed		Client Info		**Changed**	Not Changd	N/A
Sample Status				**SEVERE**	NORMAL	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**87**	7	12
Chromium	ppm	ASTM D5185m	>20	**4**	0	<1
Nickel	ppm	ASTM D5185m	>4	**1**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**10**	2	2
Lead	ppm	ASTM D5185m	>40	**1**	<1	0
Copper	ppm	ASTM D5185m	>330	**26**	0	9
Tin	ppm	ASTM D5185m	>15	**2**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**279**	11	18
Barium	ppm	ASTM D5185m		**1**	0	0
Molybdenum	ppm	ASTM D5185m		**224**	69	74
Manganese	ppm	ASTM D5185m		**2**	0	<1
Magnesium	ppm	ASTM D5185m		**826**	1002	919
Calcium	ppm	ASTM D5185m		**1057**	1206	1142
Phosphorus	ppm	ASTM D5185m		**940**	1155	1020
Zinc	ppm	ASTM D5185m		**1176**	1435	1255
Sulfur	ppm	ASTM D5185m		**3231**	3551	3778

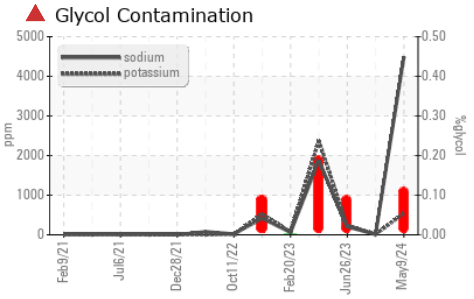
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**111**	3	6
Sodium	ppm	ASTM D5185m		**4486**	11	203
Potassium	ppm	ASTM D5185m	>20	**539**	12	239
Glycol	%	*ASTM D2982		**0.12**	NEG	0.10

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.7**	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**16.9**	5.8	6.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.0**	17.6	19.0

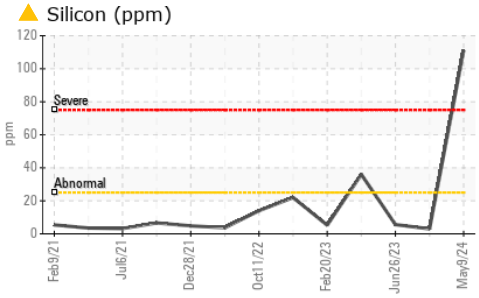
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.0**	12.7	14.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**22.6**	8.8	9.6

OIL ANALYSIS REPORT

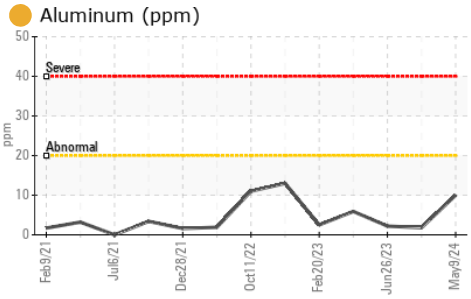
Glycol Contamination



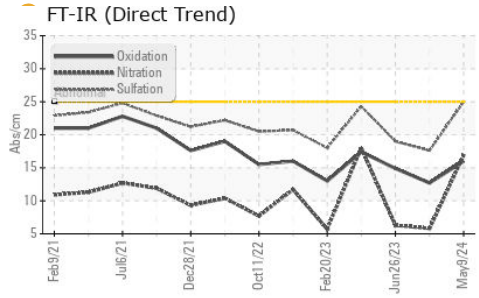
Silicon (ppm)



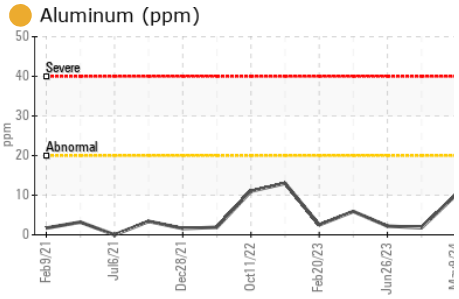
Aluminum (ppm)



FT-IR (Direct Trend)



Aluminum (ppm)

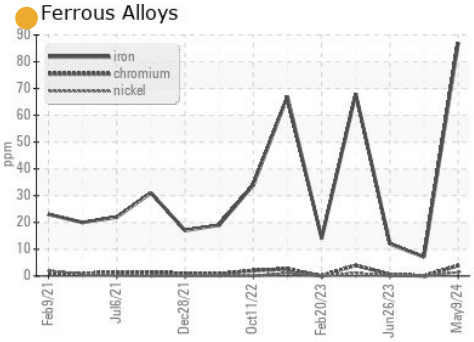


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

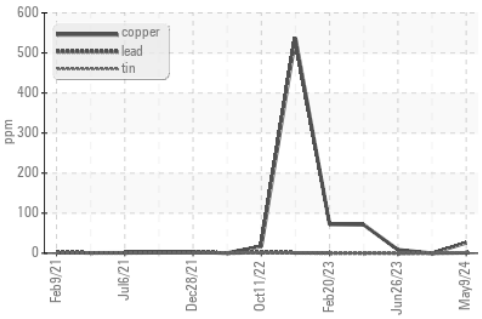
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	**15.1**	13.0	14.0

GRAPHS

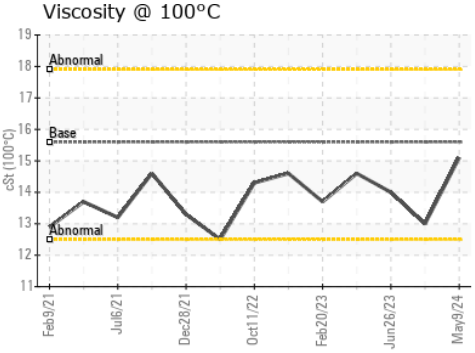
Ferrous Alloys



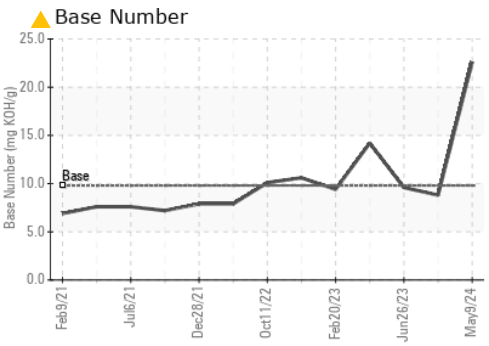
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0116243
Lab Number : 06178156
Unique Number : 11029482
Test Package : FLEET (Additional Tests: Glycol)

Received : 13 May 2024
Tested : 16 May 2024
Diagnosed : 16 May 2024 - Angela Borella

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 - 626 - Cadillac Hauling
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Cadillac, MI
US 49601
Contact: GARY BREWER
gbrewerjr@gflenv.com
T:
F:

Report Id: GFL626 [WUSCAR] 06178156 (Generated: 05/16/2024 12:45:55) Rev: 1

Submitted By: also GFL632 and GFL638 - Glenda Standen