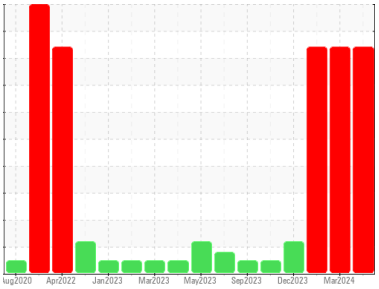
PROBLEM SUMMARY

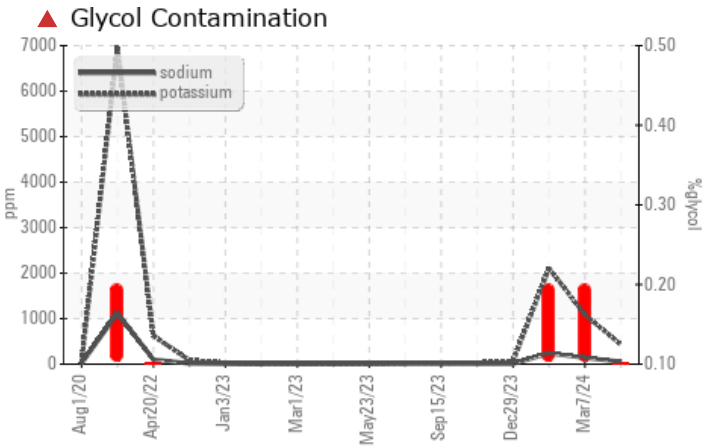
Sample Rating Trend



GLYCOL

Machine Id
828018-1064
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

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. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Potassium	ppm	ASTM D5185m	>20	▲ **428**	▲ 1086	▲ 2110
Glycol	%	*ASTM D2982		▲ **0.10**	▲ 0.20	▲ 0.20

Customer Id: GFL654S
Sample No.: GFL0113631
Lab Number: 06137888
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	---	---	?	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

GLYCOL

07 Mar 2024 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

23 Feb 2024 Diag: Wes Davis
We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. 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

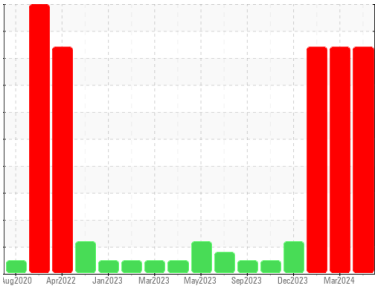
GLYCOL

29 Dec 2023 Diag: Jonathan Hester
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 are 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

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
828018-1064
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

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. 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	history1	history2
Sample Number		Client Info		**GFL0113631**	GFL0113590	GFL0113584
Sample Date		Client Info		**28 Mar 2024**	07 Mar 2024	23 Feb 2024
Machine Age	hrs	Client Info		**16119**	11790	11790
Oil Age	hrs	Client Info		**4329**	559	559
Oil Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**SEVERE**	SEVERE	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	**5**	11	51
Chromium	ppm	ASTM D5185m	>20	**0**	0	2
Nickel	ppm	ASTM D5185m	>4	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	1	6
Lead	ppm	ASTM D5185m	>40	**0**	0	<1
Copper	ppm	ASTM D5185m	>330	**<1**	1	3
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	0	**4**	2	12
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**93**	151	257
Manganese	ppm	ASTM D5185m	0	**<1**	0	<1
Magnesium	ppm	ASTM D5185m	1010	**901**	904	885
Calcium	ppm	ASTM D5185m	1070	**1018**	1013	1039
Phosphorus	ppm	ASTM D5185m	1150	**1045**	943	941
Zinc	ppm	ASTM D5185m	1270	**1186**	1126	1264
Sulfur	ppm	ASTM D5185m	2060	**3562**	3423	2926

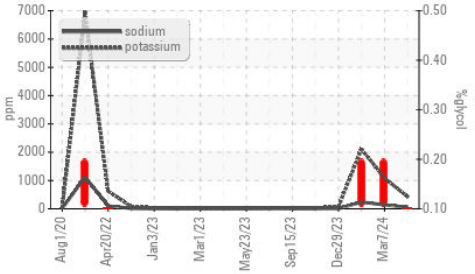
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	6	14
Sodium	ppm	ASTM D5185m		● **54**	● 139	● 239
Potassium	ppm	ASTM D5185m	>20	▲ **428**	▲ 1086	▲ 2110
Glycol	%	*ASTM D2982		▲ **0.10**	▲ 0.20	▲ 0.20

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0.2	1
Nitration	Abs/cm	*ASTM D7624	>20	**5.3**	6.7	13.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.7**	18.4	24.6

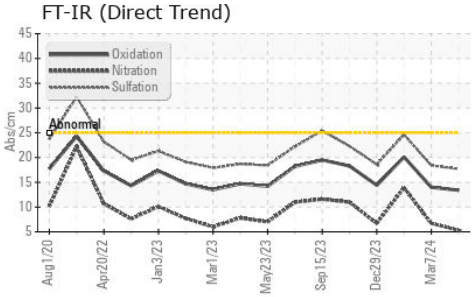
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.4**	14.0	20.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**9.8**	10.2	8.3

OIL ANALYSIS REPORT

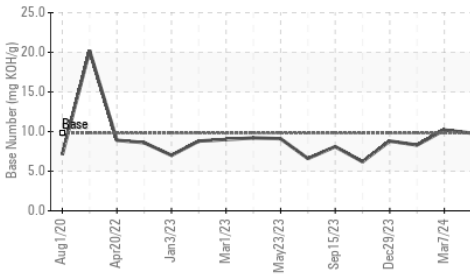
Glycol Contamination



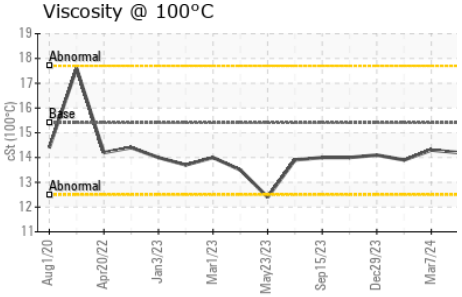
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

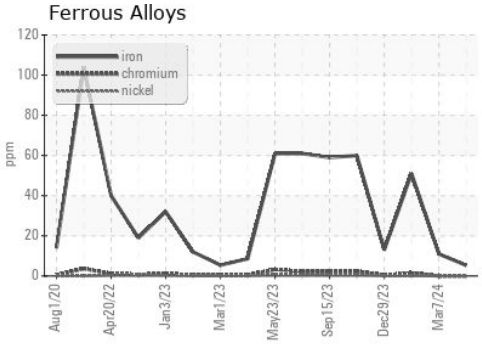


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

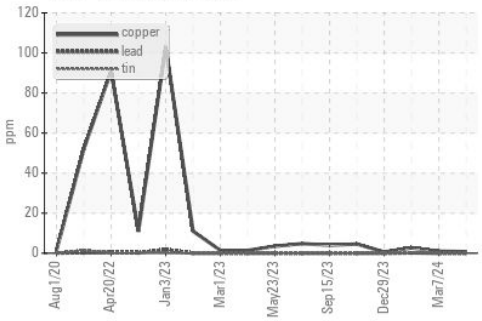
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**14.2**	14.3	13.9

GRAPHS

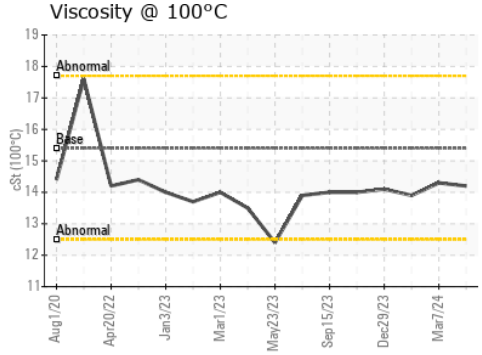
Ferrous Alloys



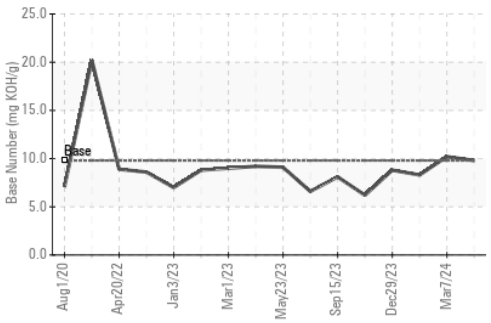
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0113631
Lab Number : 06137888
Unique Number : 10962696
Test Package : FLEET

Received : 03 Apr 2024
Tested : 04 Apr 2024
Diagnosed : 04 Apr 2024 - 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)

GFL Environmental - 654S - Midlothian
12230 Deergrove Road
Midlothian, VA
US 23112
Contact: Corbin Umphlet
cumphlet@gflenv.com
T:
F: