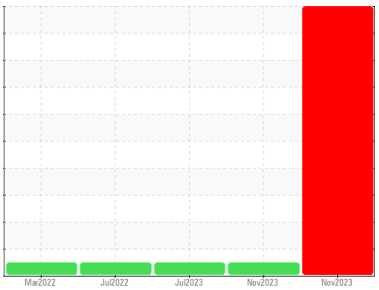
PROBLEM SUMMARY

Machine Id
4667M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (36 QTS)

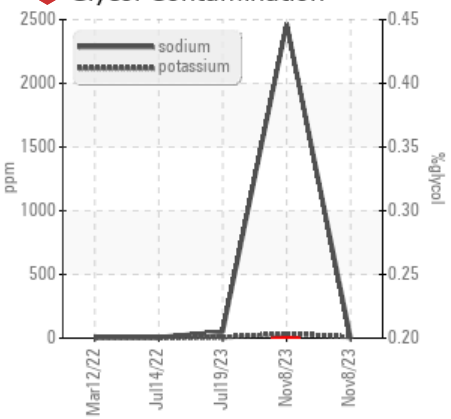
Sample Rating Trend



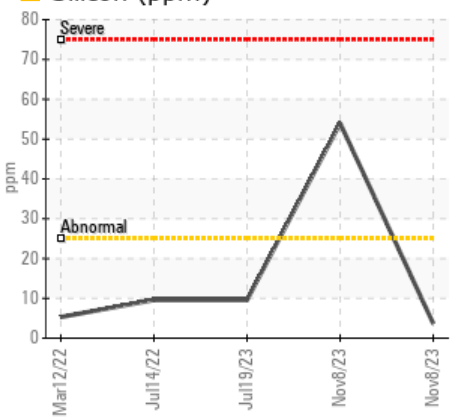
GLYCOL

COMPONENT CONDITION SUMMARY

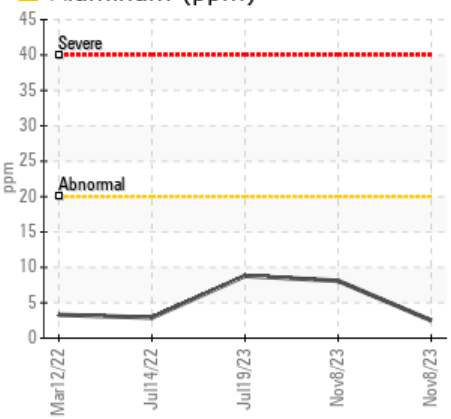
Glycol Contamination



Silicon (ppm)



Aluminum (ppm)



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Aluminum	ppm	ASTM D5185m	>20	▲ **8**	2	9
Silicon	ppm	ASTM D5185m	>25	▲ **54**	4	10
Sodium	ppm	ASTM D5185m		▲ **2465**	0	50
Potassium	ppm	ASTM D5185m	>20	▲ **35**	9	7
Glycol	%	*ASTM D2982		● **0.20**	NEG	NEG

Customer Id: GFL405
Sample No.: GFL0097672
Lab Number: 06010530
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@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 the air filter, air induction system, and any areas where dirt may enter the component.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

08 Nov 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

19 Jul 2023 Diag: Sean Felton

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

14 Jul 2022 Diag: Wes Davis

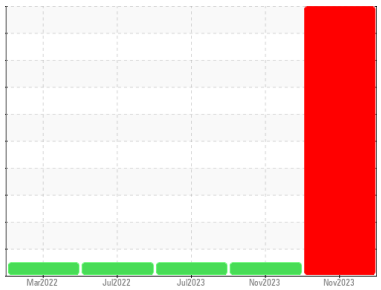
NORMAL

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



GLYCOL

Machine Id
4667M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (36 QTS)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter 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
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 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		**GFL0097672**	GFL0059157	GFL0085031
Sample Date		Client Info		**08 Nov 2023**	08 Nov 2023	19 Jul 2023
Machine Age	hrs	Client Info		**15196**	120330	114281
Oil Age	hrs	Client Info		**0**	120330	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<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	>90	**51**	31	74
Chromium	ppm	ASTM D5185m	>20	**2**	<1	2
Nickel	ppm	ASTM D5185m	>2	**1**	0	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>20	▲ **8**	2	9
Lead	ppm	ASTM D5185m	>40	**1**	<1	0
Copper	ppm	ASTM D5185m	>330	**91**	2	4
Tin	ppm	ASTM D5185m	>15	**1**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**62**	0	7
Barium	ppm	ASTM D5185m	0	**0**	6	0
Molybdenum	ppm	ASTM D5185m	60	**146**	60	78
Manganese	ppm	ASTM D5185m	0	**2**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**779**	871	1232
Calcium	ppm	ASTM D5185m	1070	**984**	1049	1356
Phosphorus	ppm	ASTM D5185m	1150	**749**	976	1292
Zinc	ppm	ASTM D5185m	1270	**1172**	1163	1585
Sulfur	ppm	ASTM D5185m	2060	**2522**	3239	3802

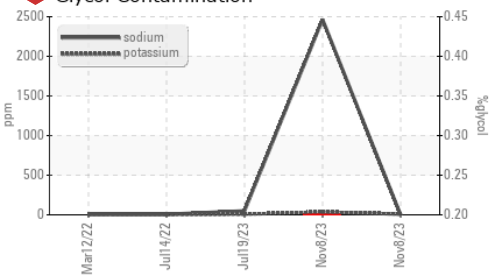
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **54**	4	10
Sodium	ppm	ASTM D5185m		▲ **2465**	0	50
Potassium	ppm	ASTM D5185m	>20	▲ **35**	9	7
Glycol	%	*ASTM D2982		● **0.20**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.7**	0.6	1.2
Nitration	Abs/cm	*ASTM D7624	>20	**16.3**	9.9	14.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.7**	21.5	28.0

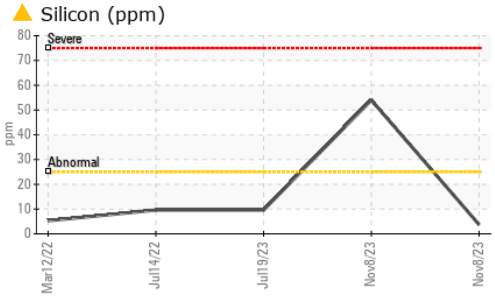
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**19.1**	19.2	26.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**13.7**	6.9	6.0

OIL ANALYSIS REPORT

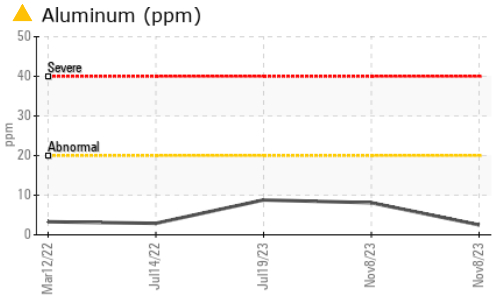
Glycol Contamination



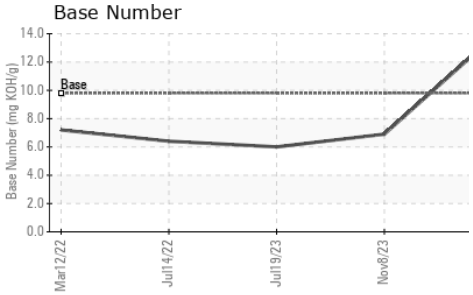
Silicon (ppm)



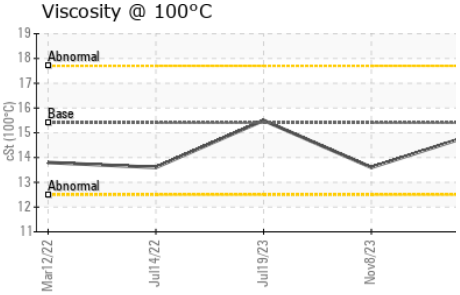
Aluminum (ppm)



Base Number



Viscosity @ 100°C

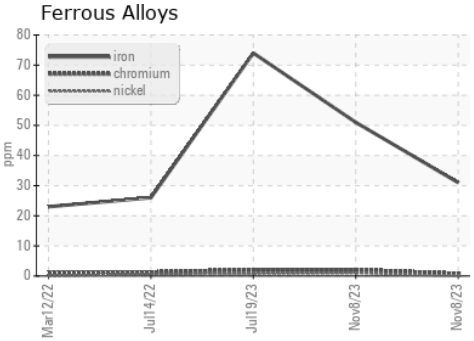


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

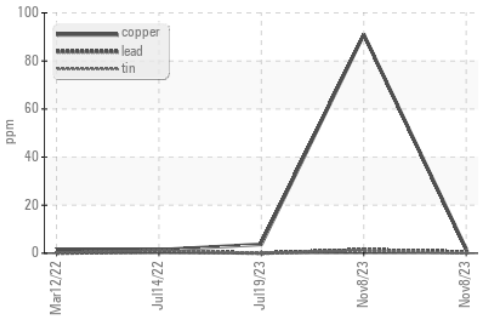
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**15.0**	13.6	15.5

GRAPHS

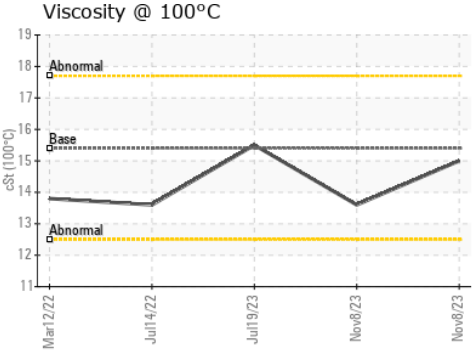
Ferrous Alloys



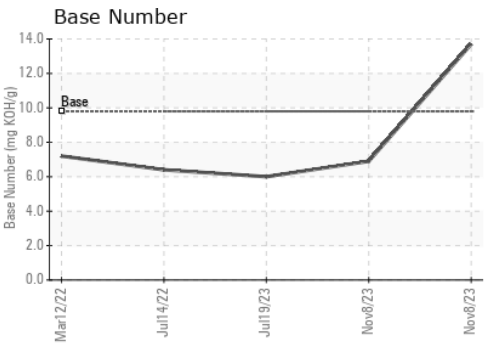
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0097672 **Received** : 17 Nov 2023
Lab Number : 06010530 **Diagnosed** : 21 Nov 2023
Unique Number : 10749674 **Diagnostician** : Jonathan Hester
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 - 405 - Arbor Hills
7400 Napier Rd
NORTHVILLE, MI
US 48168
Contact: Anthony Hopkins
ahopkins@gflenv.com
T:
F: