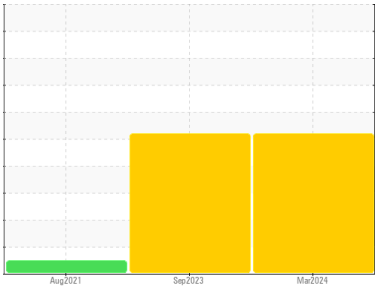
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
801121
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

We advise that you check the fuel injection system. Check for low coolant level. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

▲ Wear

Aluminum and iron ppm levels are abnormal. Cylinder, crank, or cam shaft wear is indicated. Piston wear is indicated.

▲ Contamination

There is a high amount of fuel present in the oil. Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. Tests confirm the presence of fuel in the oil.

▲ Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable as a result of the abnormal and/or severe wear. The condition of the oil is acceptable for the time in service (see recommendation).

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0100604**	GFL0077009	GFL0024375
Sample Date		Client Info		**07 Mar 2024**	23 Sep 2023	19 Aug 2021
Machine Age	kms	Client Info		**266875**	255744	215130
Oil Age	kms	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**SEVERE**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**42**	---	---
Iron	ppm	ASTM D5185(m)	>100	▲ **105**	77	27
Chromium	ppm	ASTM D5185(m)	>20	**5**	16	<1
Nickel	ppm	ASTM D5185(m)	>4	**2**	2	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	▲ **20**	14	5
Lead	ppm	ASTM D5185(m)	>40	**3**	5	1
Copper	ppm	ASTM D5185(m)	>330	**6**	12	3
Tin	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**0**	0	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**7**	68	3
Barium	ppm	ASTM D5185(m)	0	**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	**72**	150	62
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**937**	902	1033
Calcium	ppm	ASTM D5185(m)	1070	**1072**	1051	1088
Phosphorus	ppm	ASTM D5185(m)	1150	**932**	1001	1130
Zinc	ppm	ASTM D5185(m)	1270	**1125**	1163	1269
Sulfur	ppm	ASTM D5185(m)	2060	**2614**	2495	2635
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**13**	46	4
Sodium	ppm	ASTM D5185(m)		● **250**	● 1441	7
Potassium	ppm	ASTM D5185(m)	>20	**88**	▲ 398	4
Fuel	%	ASTM D7593*	>2.0	▲ **5.6**	<1.0	1.7
Glycol	%	ASTM D7922*		**0.0**	▲ 0.015	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**1**	0.2	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**11.6**	13.7	9.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.8**	21.7	20.8

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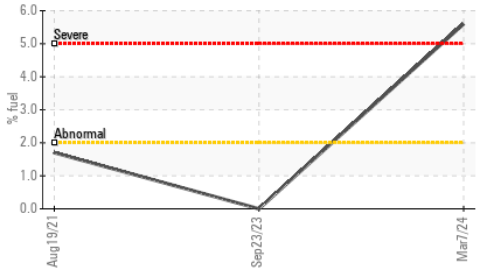
Fuel Dilution



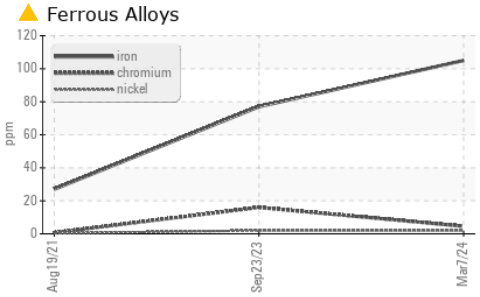
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.2**	16.8	18.4

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

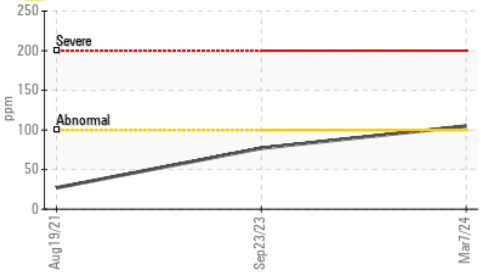
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ **11.3**	▲ 11.8	12.1

GRAPHS

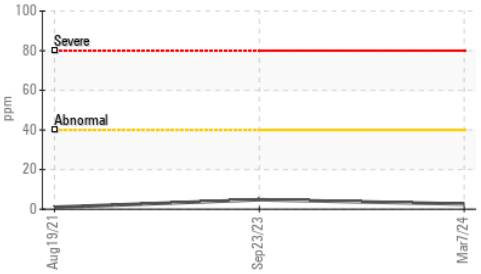
Ferrous Alloys



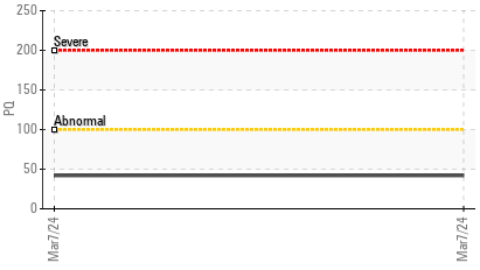
Iron (ppm)



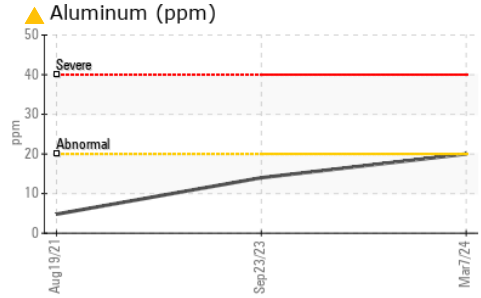
Lead (ppm)



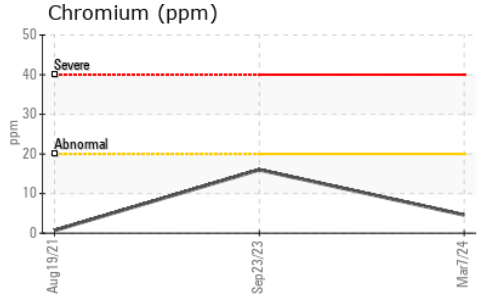
PQ



Aluminum (ppm)



Chromium (ppm)



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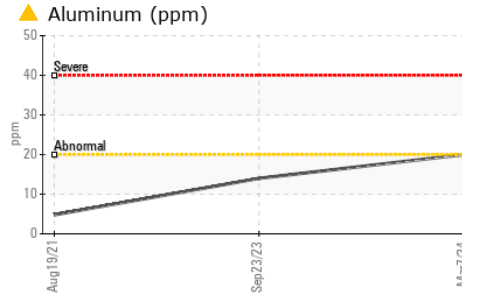
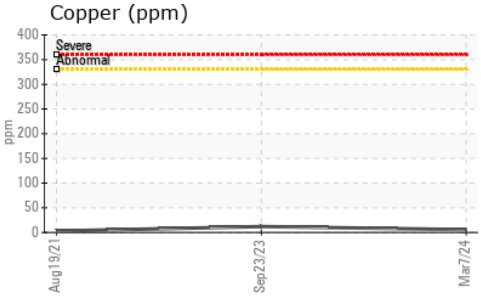
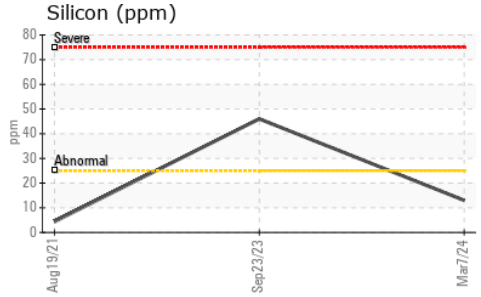


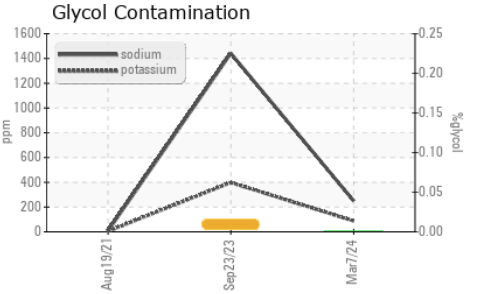
Copper (ppm)



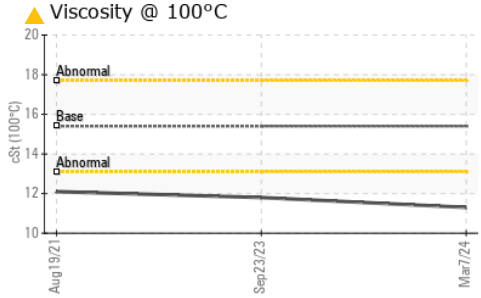
Silicon (ppm)



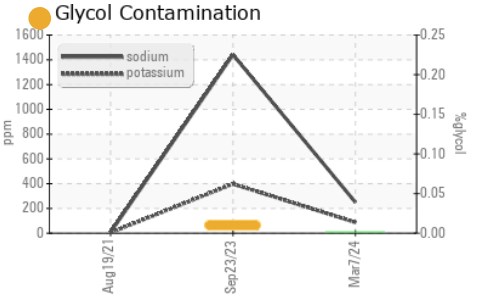
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0100604
Lab Number : 02621331
Unique Number : 5746450
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, PercentFuel, PQ)

Received : 12 Mar 2024
Tested : 13 Mar 2024
Diagnosed : 13 Mar 2024 - Kevin Marson

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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