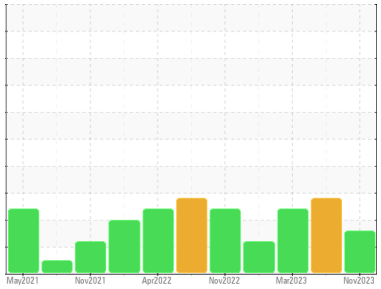
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
250003
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
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
Metal levels are typical for a new component breaking in.

Contamination
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0096749**	GFL0084103	GFL0073164
Sample Date		Client Info		**09 Nov 2023**	21 Jun 2023	22 Mar 2023
Machine Age	kms	Client Info		**101689**	9675	8988
Oil Age	kms	Client Info		**0**	0	600
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	SEVERE	SEVERE

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**31**	19	21
Chromium	ppm	ASTM D5185(m)	>20	**2**	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	<1
Silver	ppm	ASTM D5185(m)	>3	**2**	1	1
Aluminum	ppm	ASTM D5185(m)	>20	**2**	1	1
Lead	ppm	ASTM D5185(m)	>40	**0**	0	0
Copper	ppm	ASTM D5185(m)	>330	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>15	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	0	0
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	**1**	4	3
Barium	ppm	ASTM D5185(m)	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**55**	53	53
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**901**	832	856
Calcium	ppm	ASTM D5185(m)	1070	**976**	925	984
Phosphorus	ppm	ASTM D5185(m)	1150	**916**	920	968
Zinc	ppm	ASTM D5185(m)	1270	**1115**	1026	1069
Sulfur	ppm	ASTM D5185(m)	2060	**2139**	2099	2209
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**11**	7	9
Sodium	ppm	ASTM D5185(m)		**7**	3	6
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Fuel	%	ASTM D7593*	>5	▲ **5.6**	⬢ 11.2	⬢ 10.4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.2**	0.2	0.2
Nitration	Abs/cm	ASTM D7624*	>20	**13.4**	11.3	12.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	**29.3**	25.0	25.8

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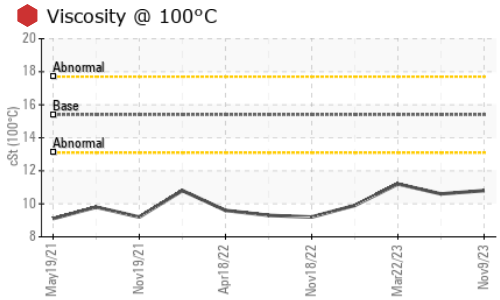
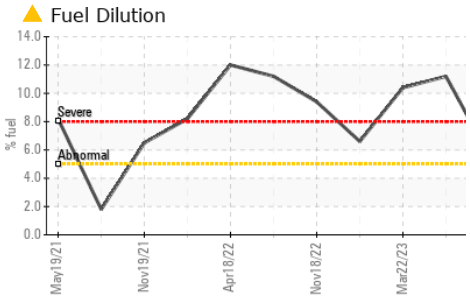


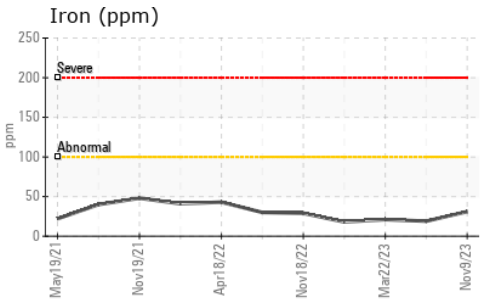


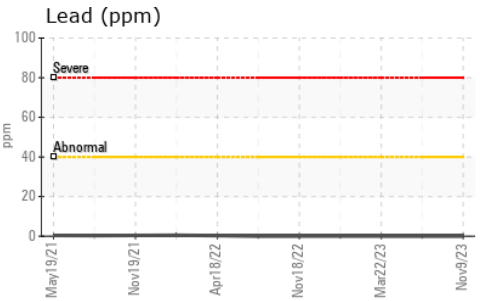
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**36.7**	28.2	30.4

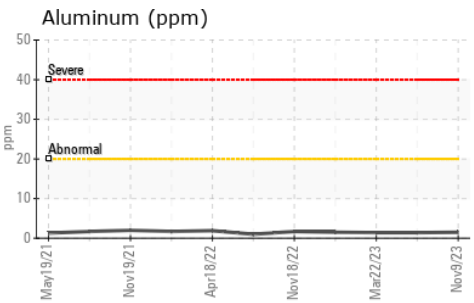
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

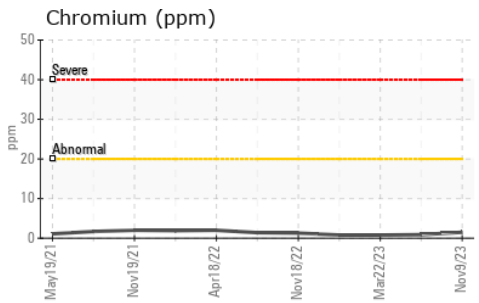
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**10.8**	10.6	11.2

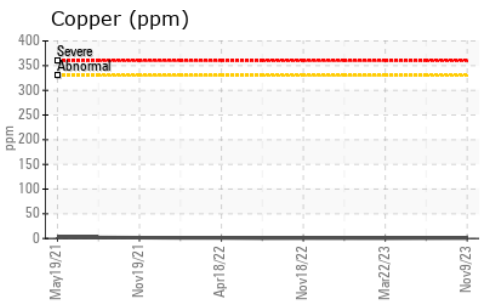
GRAPHS

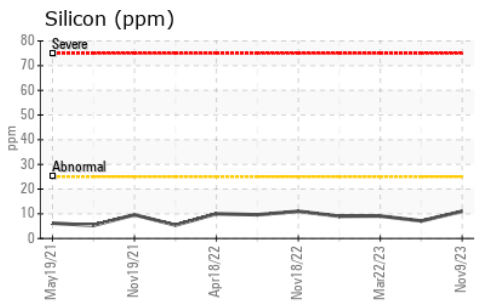


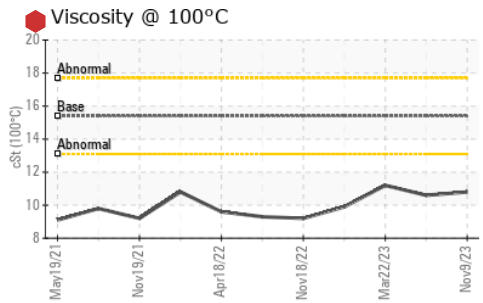


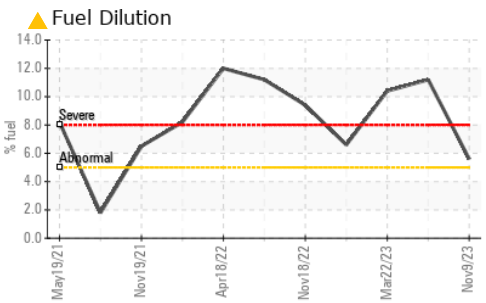












CALA Testing Accreditation No. 1005078
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 574 - Vancouver Fleet**
Sample No. : GFL0096749 **Received** : 04 Dec 2023
Lab Number : 02600389 **Diagnosed** : 05 Dec 2023
Unique Number : 5685469 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: PercentFuel)

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CA V3K 6B5
Contact: Allison Adams
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T: (604)529-4023
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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.