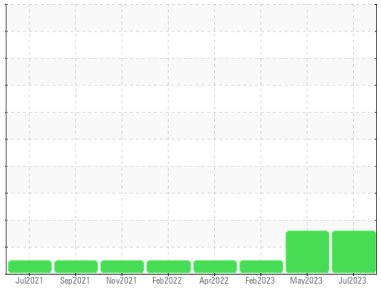
OIL ANALYSIS REPORT

Sample Rating Trend



SOOT

Machine Id
401101
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. Please specify the component make and model with your next sample.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. Light concentration of carbon/soot present in the oil. No other contaminants were detected in the oil.

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0084197**	GFL0073040	GFL0063631
Sample Date		Client Info		**19 Jul 2023**	15 May 2023	23 Feb 2023
Machine Age	hrs	Client Info		**1906**	1227	624023
Oil Age	hrs	Client Info		**600**	600	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**52**	59	61
Chromium	ppm	ASTM D5185(m)	>20	**3**	3	4
Nickel	ppm	ASTM D5185(m)	>4	**0**	0	<1
Titanium	ppm	ASTM D5185(m)		**<1**	<1	4
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	2	3
Lead	ppm	ASTM D5185(m)	>40	**2**	3	3
Copper	ppm	ASTM D5185(m)	>330	**2**	2	3
Tin	ppm	ASTM D5185(m)	>15	**<1**	1	2
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	**4**	4	4
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**61**	65	62
Manganese	ppm	ASTM D5185(m)	0	**<1**	1	2
Magnesium	ppm	ASTM D5185(m)	1010	**1013**	1042	1006
Calcium	ppm	ASTM D5185(m)	1070	**1076**	1184	1140
Phosphorus	ppm	ASTM D5185(m)	1150	**1075**	1122	1118
Zinc	ppm	ASTM D5185(m)	1270	**1221**	1269	1238
Sulfur	ppm	ASTM D5185(m)	2060	**2491**	2611	2636
Lithium	ppm	ASTM D5185(m)		**<1**	<1	1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**6**	8	15
Sodium	ppm	ASTM D5185(m)		**5**	7	17
Potassium	ppm	ASTM D5185(m)	>20	**<1**	2	<1
Fuel	%	ASTM D7593*	>5	▲ **2.6**	▲ 2.6	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	▲ **3.4**	▲ 3.4	1.6
Nitration	Abs/cm	ASTM D7624*	>20	**10.9**	11.1	6.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	**26.8**	26.5	21.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**17.9**	17.6	10.4

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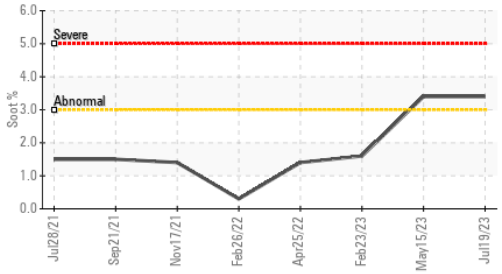
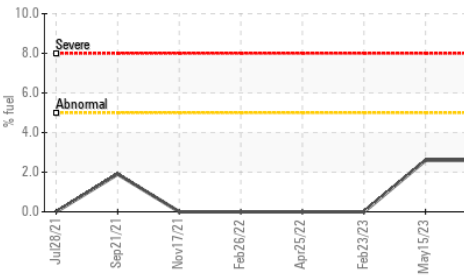
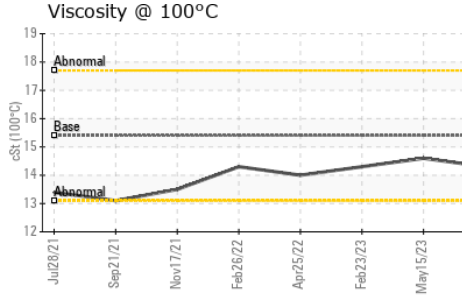
Soot %



Fuel Dilution



Viscosity @ 100°C

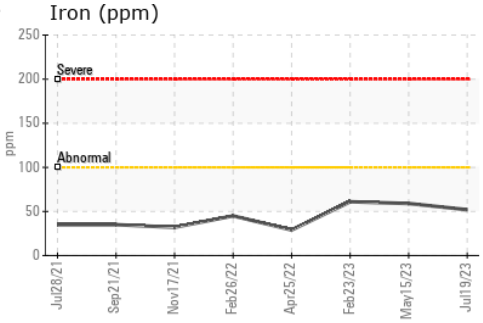


VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

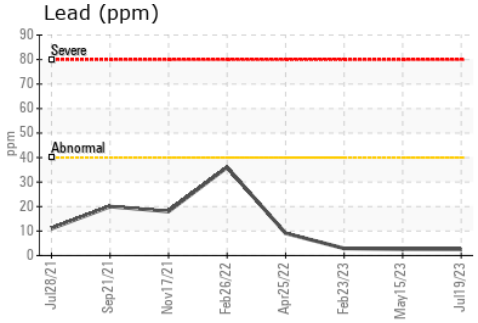
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**14.3**	14.6	14.3

GRAPHS

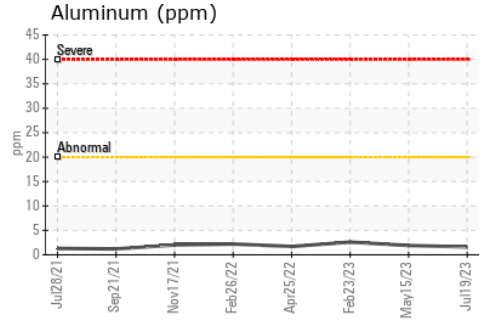
Iron (ppm)



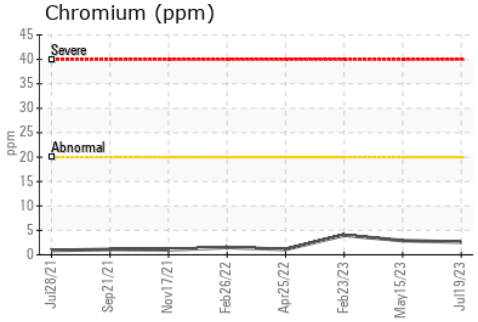
Lead (ppm)



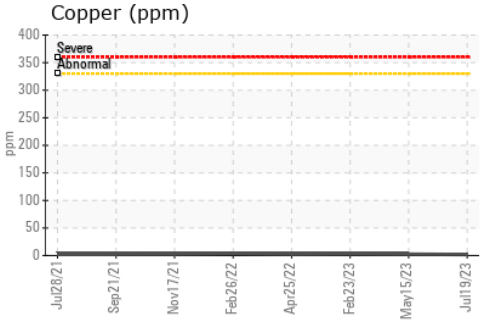
Aluminum (ppm)



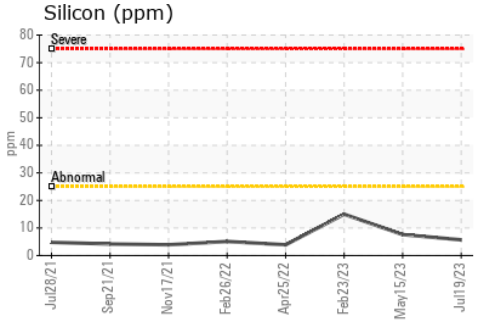
Chromium (ppm)



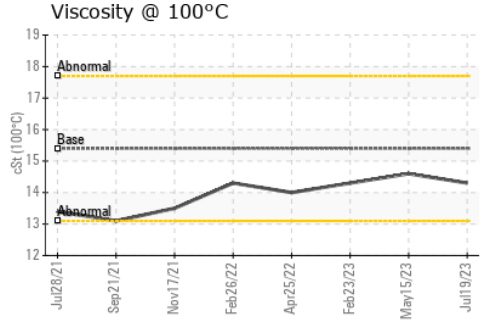
Copper (ppm)



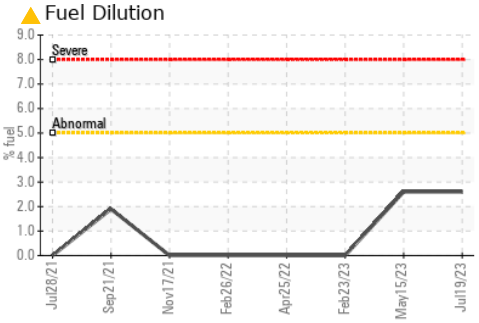
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 574 - Vancouver Fleet**
Sample No. : GFL0084197 **Received** : 02 Aug 2023
Lab Number : 02573588 **Diagnosed** : 03 Aug 2023
Unique Number : 5618639 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

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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