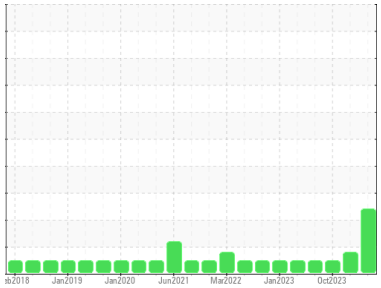
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
701050
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (20 GAL)

DIAGNOSIS

▲ Recommendation

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

Metal levels are typical for a new component breaking in.

▲ Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is a high amount of fuel present in the oil. 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 due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0110714**	GFL0097435	GFL0085678
Sample Date		Client Info		**19 Mar 2024**	04 Jan 2024	05 Oct 2023
Machine Age	hrs	Client Info		**514**	514	514
Oil Age	hrs	Client Info		**514**	514	514
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	MARGINAL	NORMAL

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)	>80	**15**	17	19
Chromium	ppm	ASTM D5185(m)	>5	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	**0**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>30	**6**	3	2
Lead	ppm	ASTM D5185(m)	>30	**0**	0	0
Copper	ppm	ASTM D5185(m)	>150	**<1**	1	2
Tin	ppm	ASTM D5185(m)	>5	**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	**0**	2	2
Barium	ppm	ASTM D5185(m)	0	**0**	0	<1
Molybdenum	ppm	ASTM D5185(m)	60	**51**	55	58
Manganese	ppm	ASTM D5185(m)	0	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	1010	**829**	886	930
Calcium	ppm	ASTM D5185(m)	1070	**897**	981	1008
Phosphorus	ppm	ASTM D5185(m)	1150	**833**	917	943
Zinc	ppm	ASTM D5185(m)	1270	**1026**	1104	1168
Sulfur	ppm	ASTM D5185(m)	2060	**2157**	2318	2252
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**3**	6	4
Sodium	ppm	ASTM D5185(m)		**2**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**11**	5	1
Fuel	%	ASTM D7593*	>5	**▲ 8.4**	▲ 4.8	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.3**	0.3	0.4
Nitration	Abs/cm	ASTM D7624*	>20	**10.8**	10.3	10.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.1**	21.5	21.8

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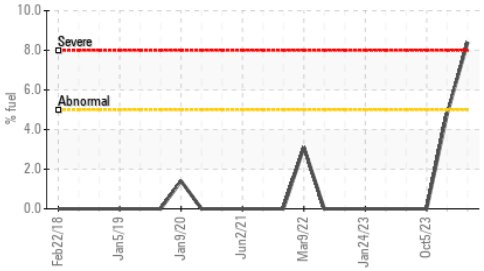
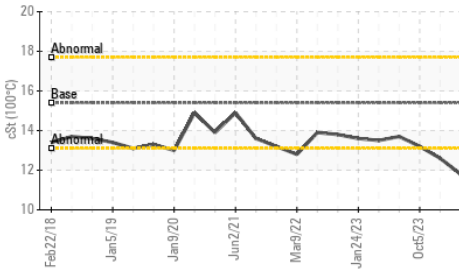
▲ Fuel Dilution



▲ Viscosity @ 100°C



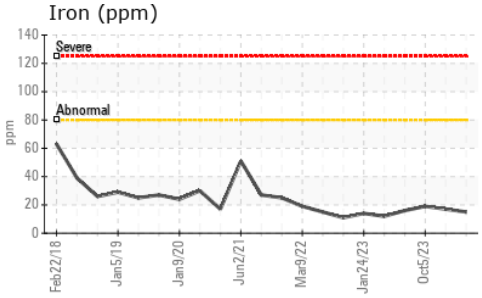
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.8**	19.7	19.0

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

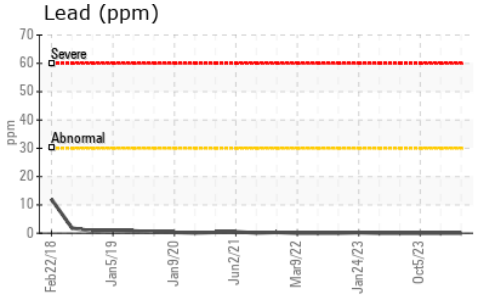
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ **11.8**	12.6	13.2

GRAPHS

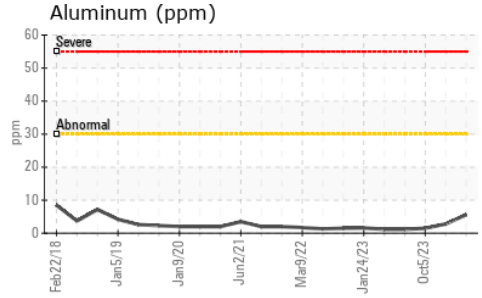
Iron (ppm)



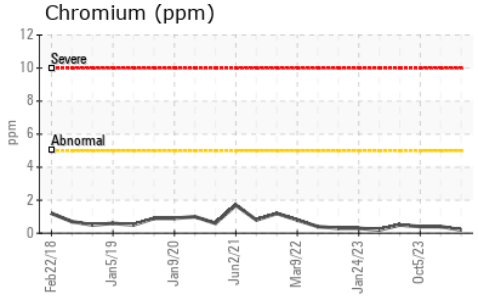
Lead (ppm)



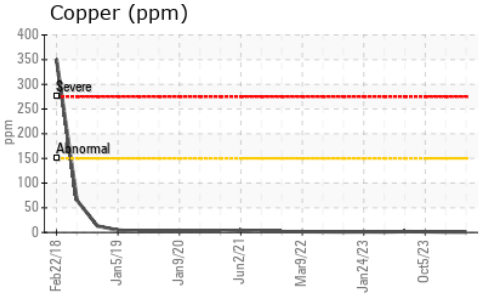
Aluminum (ppm)



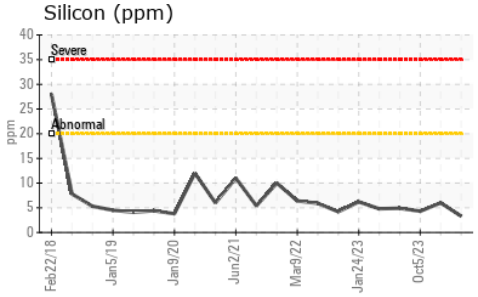
Chromium (ppm)



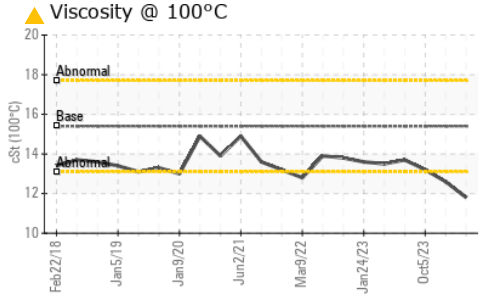
Copper (ppm)



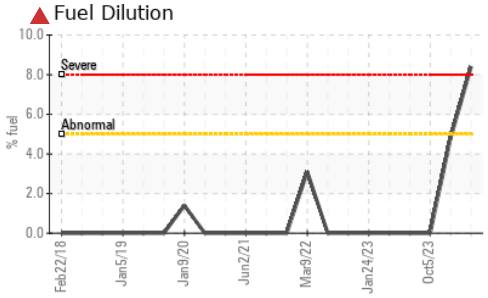
Silicon (ppm)



▲ Viscosity @ 100°C



▲ Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0110714
Lab Number : 02623891
Unique Number : 5749010
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

Received : 22 Mar 2024
Tested : 26 Mar 2024
Diagnosed : 26 Mar 2024 - Wes Davis

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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