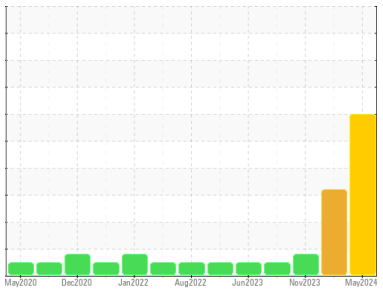
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
428008
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. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

▲ Wear
Nickel ppm levels are severe. Exhaust valve wear is indicated.

Contamination
Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition
Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0113230**	GFL0113229	GFL0097313
Sample Date		Client Info		**02 May 2024**	15 Apr 2024	30 Nov 2023
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**11901**	11794	11219
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	ABNORMAL	MARGINAL

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	**27**	12	5
Chromium	ppm	ASTM D5185(m)	>5	**3**	<1	0
Nickel	ppm	ASTM D5185(m)	>2	▲ **12**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	<1	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>30	**8**	2	1
Lead	ppm	ASTM D5185(m)	>30	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>150	**2**	<1	<1
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	**32**	42	116
Barium	ppm	ASTM D5185(m)	0	**0**	0	<1
Molybdenum	ppm	ASTM D5185(m)	60	**13**	36	3
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	0
Magnesium	ppm	ASTM D5185(m)	1010	**159**	375	23
Calcium	ppm	ASTM D5185(m)	1070	**1993**	1719	1994
Phosphorus	ppm	ASTM D5185(m)	1150	**881**	694	881
Zinc	ppm	ASTM D5185(m)	1270	**1065**	861	1078
Sulfur	ppm	ASTM D5185(m)	2060	**2654**	2124	2738
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**4**	3	2
Sodium	ppm	ASTM D5185(m)		**5**	1	2
Potassium	ppm	ASTM D5185(m)	>20	**4**	2	4
Fuel	%	ASTM D7593*	>5	**1.5**	▲ 3.6	▲ 2.7

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.4**	0.4	0.2
Nitration	Abs/cm	ASTM D7624*	>20	**9.9**	11.4	8.5
Sulfation	Abs/.1mm	ASTM D7415*	>30	**25.7**	23.3	21.5

OIL ANALYSIS REPORT

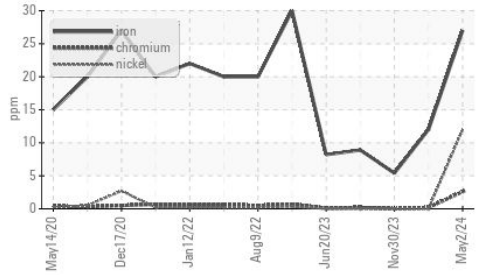
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**18.8**	23.5	17.3

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

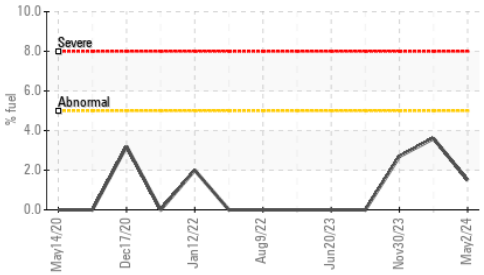
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**12.6**	▲ 11.3	12.4

GRAPHS

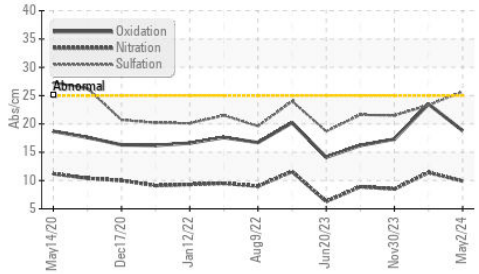
Ferrous Alloys



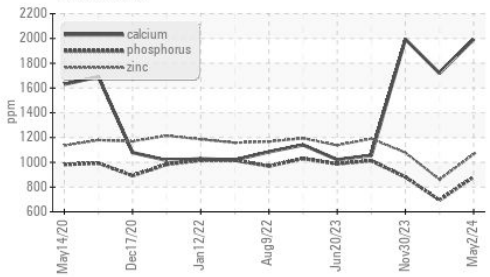
Fuel Dilution



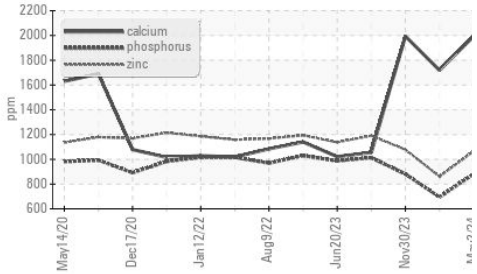
FT-IR (Direct Trend)



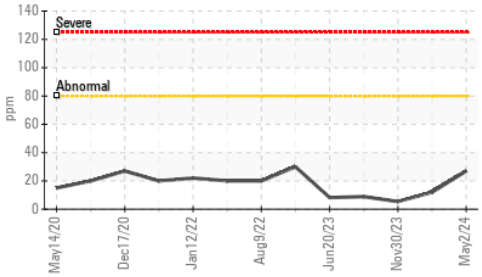
Additives



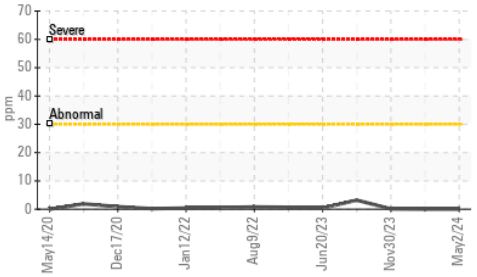
Additives



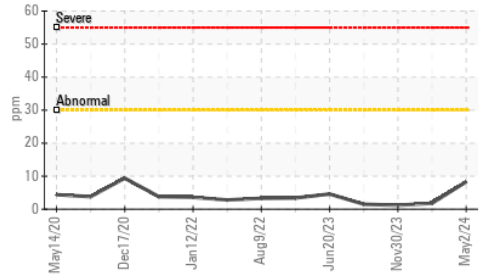
Iron (ppm)



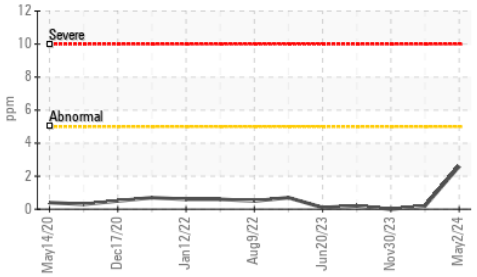
Lead (ppm)



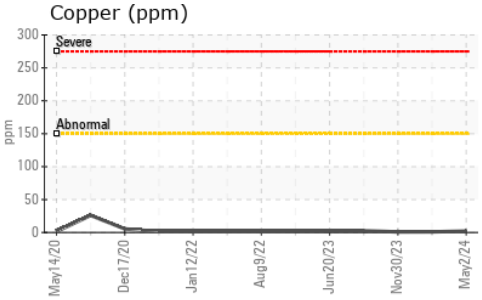
Aluminum (ppm)



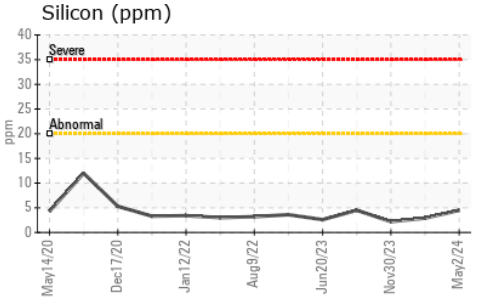
Chromium (ppm)



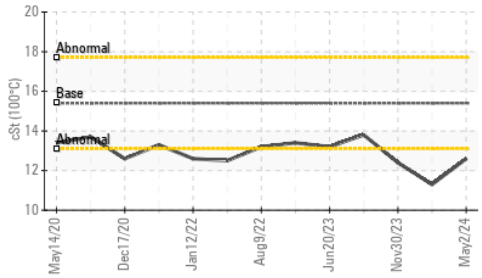
Copper (ppm)



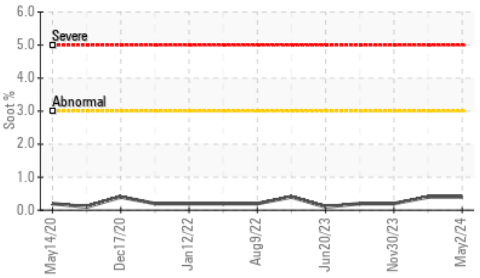
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0113230
Lab Number : 02633406
Unique Number : 5774559
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

Received : 06 May 2024
Tested : 07 May 2024
Diagnosed : 07 May 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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