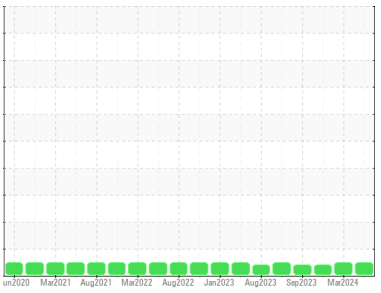
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
728002
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

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 no indication of any contamination in the oil.

Fluid Condition
Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0113224**	GFL0102870	GFL0097302
Sample Date		Client Info		**17 May 2024**	21 Mar 2024	08 Dec 2023
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	14592	14020
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**NORMAL**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	0.7
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)	>120	**7**	8	6
Chromium	ppm	ASTM D5185(m)	>20	**0**	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	**0**	1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	**2**	4	3
Lead	ppm	ASTM D5185(m)	>40	**0**	0	<1
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	**113**	98	38
Barium	ppm	ASTM D5185(m)	0	**0**	0	<1
Molybdenum	ppm	ASTM D5185(m)	60	**1**	5	42
Manganese	ppm	ASTM D5185(m)	0	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	1010	**20**	69	510
Calcium	ppm	ASTM D5185(m)	1070	**2127**	2042	1687
Phosphorus	ppm	ASTM D5185(m)	1150	**926**	859	701
Zinc	ppm	ASTM D5185(m)	1270	**1129**	1090	868
Sulfur	ppm	ASTM D5185(m)	2060	**2791**	2555	1951
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**1**	1	4
Sodium	ppm	ASTM D5185(m)		**4**	4	3
Potassium	ppm	ASTM D5185(m)	>20	**6**	5	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0.4**	0.2	0.2
Nitration	Abs/cm	ASTM D7624*	>20	**8.5**	9.1	8.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.4**	22.6	22.4

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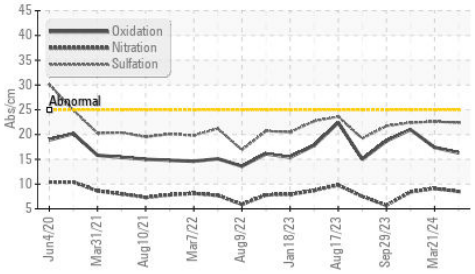
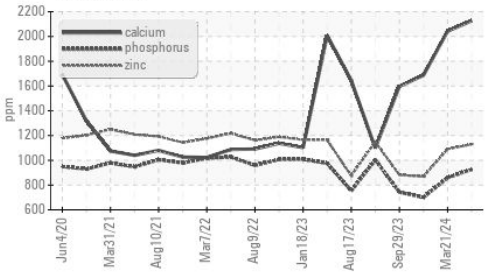
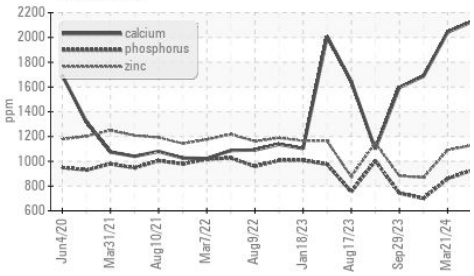
FT-IR (Direct Trend)



Additives



Additives



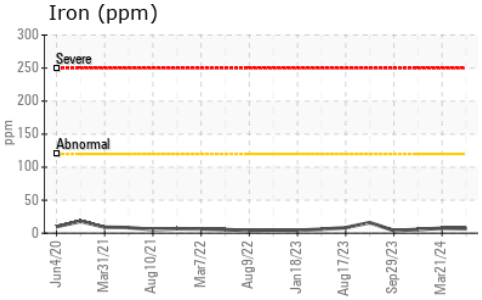
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**16.3**	17.4	21.0

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

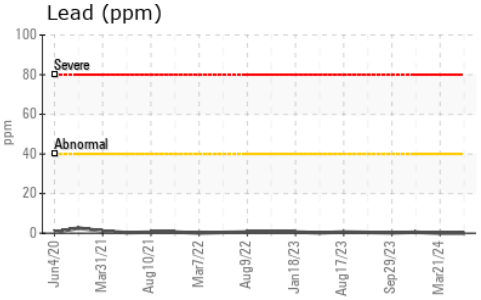
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**13.3**	13.5	▲ 11.6

GRAPHS

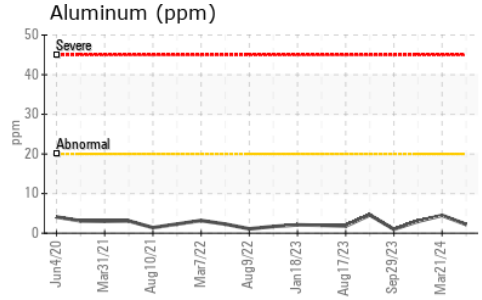
Iron (ppm)



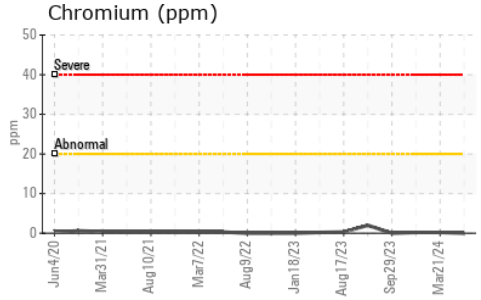
Lead (ppm)



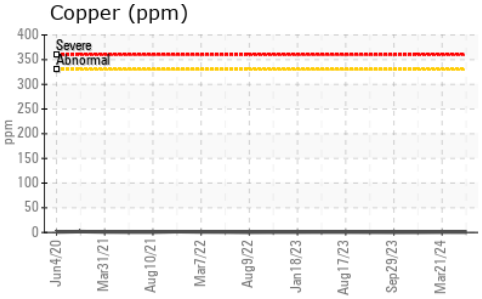
Aluminum (ppm)



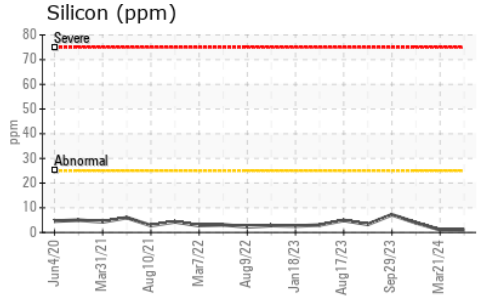
Chromium (ppm)



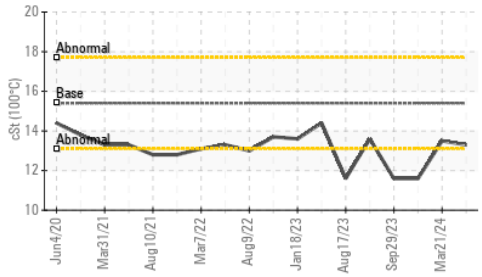
Copper (ppm)



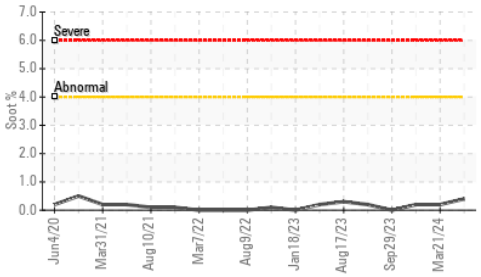
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0113224
Lab Number : 02636590
Unique Number : 5785752
Test Package : MOB 1

Received : 21 May 2024
Tested : 21 May 2024
Diagnosed : 21 May 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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