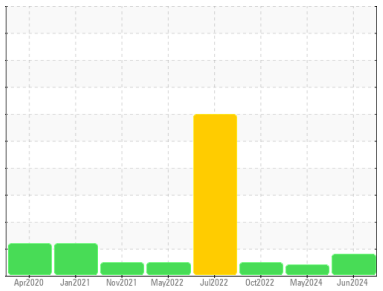
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
923002
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. 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
Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition
Viscosity of sample indicates oil is within SAE 10W30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0113233**	GFL0113238	GFL0061945
Sample Date		Client Info		**14 Jun 2024**	09 May 2024	18 Oct 2022
Machine Age	hrs	Client Info		**0**	0	5767
Oil Age	hrs	Client Info		**6389**	6263	538
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**ABNORMAL**	ABNORMAL	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)	>120	**6**	26	17
Chromium	ppm	ASTM D5185(m)	>20	**0**	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	**2**	2	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	<1	<1
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	12	4
Lead	ppm	ASTM D5185(m)	>40	**0**	0	1
Copper	ppm	ASTM D5185(m)	>330	**<1**	3	3
Tin	ppm	ASTM D5185(m)	>15	**0**	0	<1
Antimony	ppm	ASTM D5185(m)		**<1**	0	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

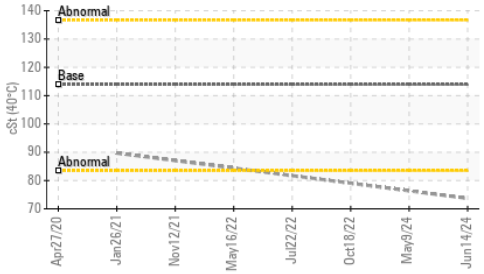
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**31**	52	4
Barium	ppm	ASTM D5185(m)	0	**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	**43**	39	58
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**487**	500	933
Calcium	ppm	ASTM D5185(m)	1070	**1668**	1643	1117
Phosphorus	ppm	ASTM D5185(m)	1150	**720**	749	1057
Zinc	ppm	ASTM D5185(m)	1270	**862**	865	1182
Sulfur	ppm	ASTM D5185(m)	2060	**2034**	2157	2547
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**5**	15	4
Sodium	ppm	ASTM D5185(m)		**3**	3	4
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Fuel	%	ASTM D7593*	>3.0	**1.9**	0.0	<1.0

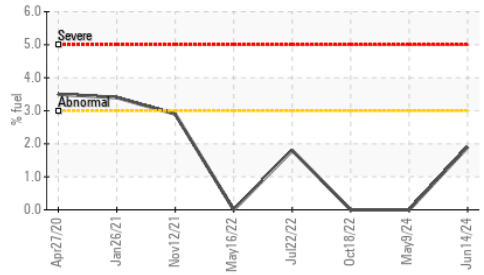
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0.1**	0	0.6
Nitration	Abs/cm	ASTM D7624*	>20	**9.0**	6.0	10.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.3**	22.1	20.8

OIL ANALYSIS REPORT

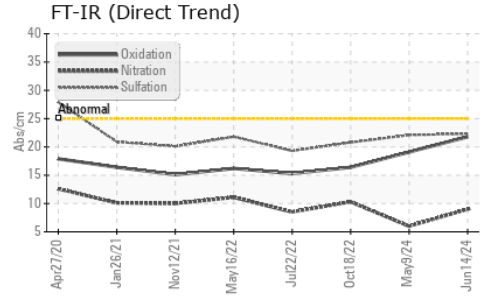
Viscosity @ 40°C



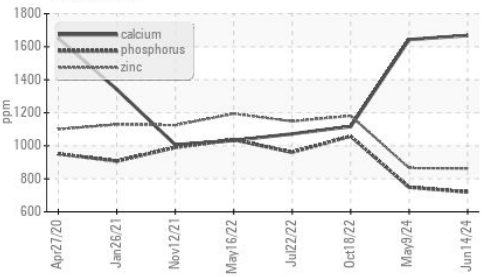
Fuel Dilution



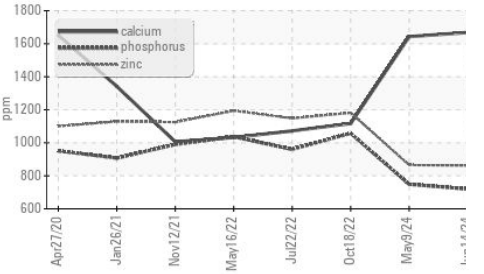
FT-IR (Direct Trend)



Additives



Additives



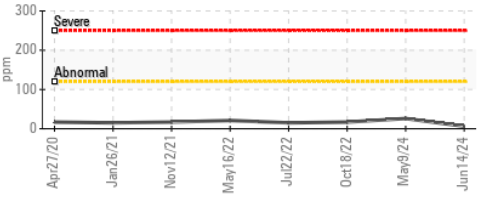
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**21.8**	19.1	16.4

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**VLITE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

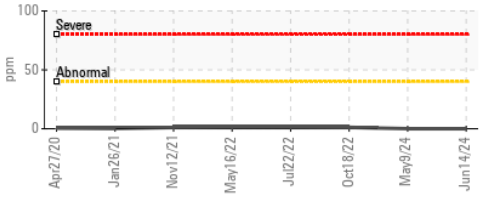
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	113.9	▲ **73.7**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ **11.1**	▲ 11.1	13.3
Viscosity Index (VI)	Scale	ASTM D2270*	142	**141**	---	---

GRAPHS

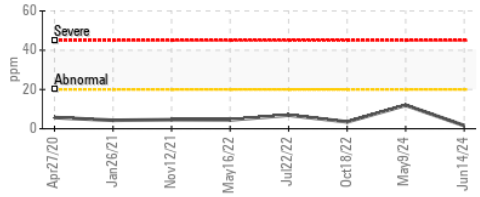
Iron (ppm)



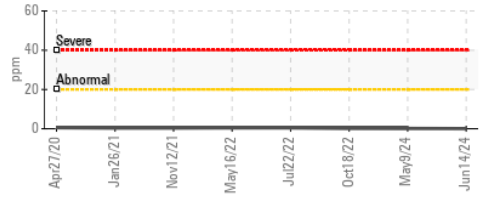
Lead (ppm)



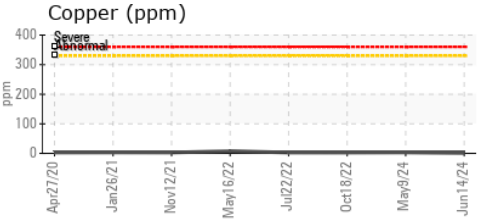
Aluminum (ppm)



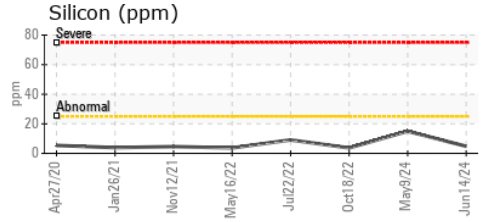
Chromium (ppm)



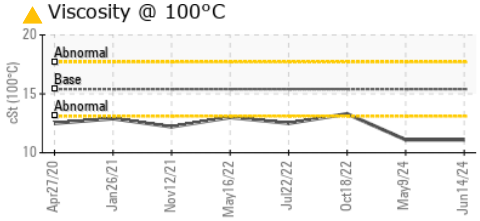
Copper (ppm)



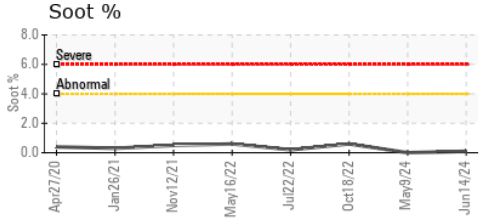
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0113233
Lab Number : 02642478
Unique Number : 5800017
Test Package : MOB 1 (Additional Tests: FUELDILUTION, KV40, PercentFuel, VI, Visual)

Received : 18 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 20 Jun 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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