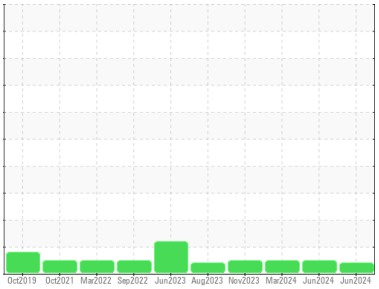
OIL ANALYSIS REPORT

Machine Id
9944
Component
Diesel Engine
Fluid
PETRO CANADA DURON-E XL 15W40 (--- LTR)

Sample Rating Trend



VISCOSITY

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. Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

Fluid Condition
Viscosity of sample indicates oil is within SAE 30 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		**GFL0113197**	GFL0113199	GFL0113258
Sample Date		Client Info		**26 Jun 2024**	26 Jun 2024	06 Mar 2024
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**1341**	20345	19838
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	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	**28**	7	4
Chromium	ppm	ASTM D5185(m)	>20	**<1**	0	0
Nickel	ppm	ASTM D5185(m)	>5	**4**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**6**	2	2
Lead	ppm	ASTM D5185(m)	>40	**5**	0	<1
Copper	ppm	ASTM D5185(m)	>330	**180**	2	<1
Tin	ppm	ASTM D5185(m)	>15	**2**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	<1	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)	1	**26**	90	14
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**51**	7	50
Manganese	ppm	ASTM D5185(m)	0	**1**	<1	0
Magnesium	ppm	ASTM D5185(m)	1010	**513**	95	786
Calcium	ppm	ASTM D5185(m)	1070	**1630**	1921	1133
Phosphorus	ppm	ASTM D5185(m)	1150	**673**	853	941
Zinc	ppm	ASTM D5185(m)	1270	**834**	1042	1110
Sulfur	ppm	ASTM D5185(m)	2060	**1735**	2623	2621
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**14**	3	2
Sodium	ppm	ASTM D5185(m)		**2**	9	3
Potassium	ppm	ASTM D5185(m)	>20	**17**	5	2
Fuel	%	ASTM D7593*	>3.0	**0.0**	2.8	2.8

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0.3**	0.3	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**10.0**	8.7	8.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**23.2**	23.6	18.9

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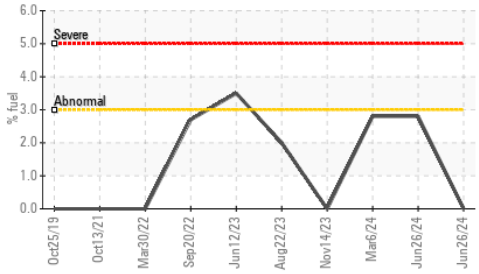
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**23.2**	18.0	14.7

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

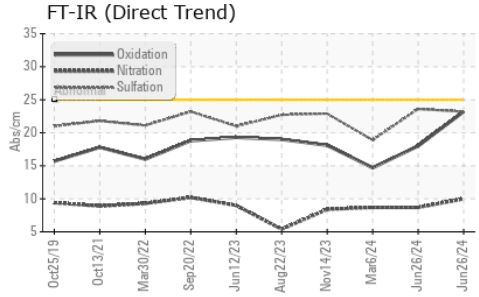
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.54	▲ **11.3**	12.7	13.0

GRAPHS

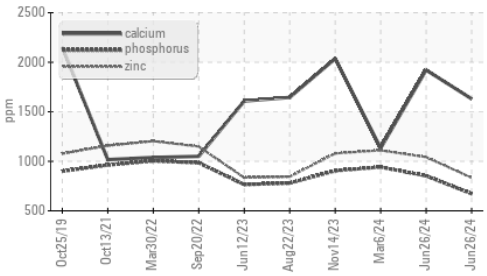
Fuel Dilution



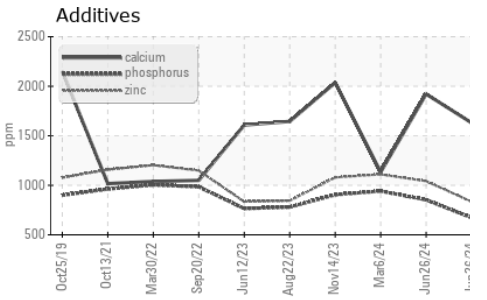
FT-IR (Direct Trend)



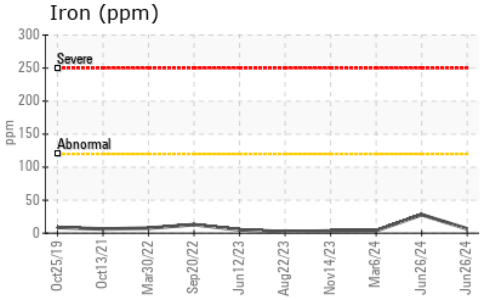
Additives



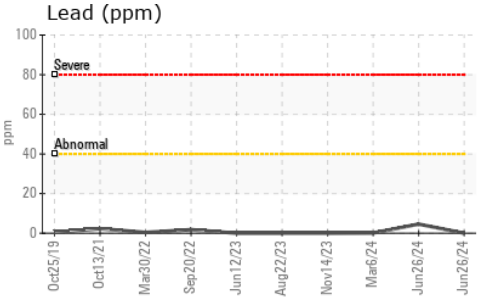
Additives



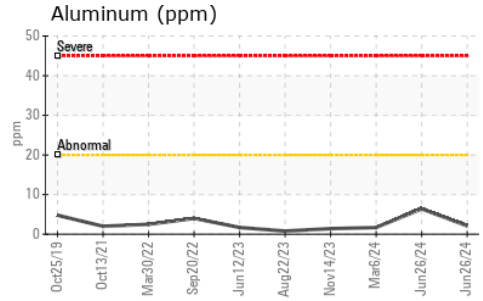
Iron (ppm)



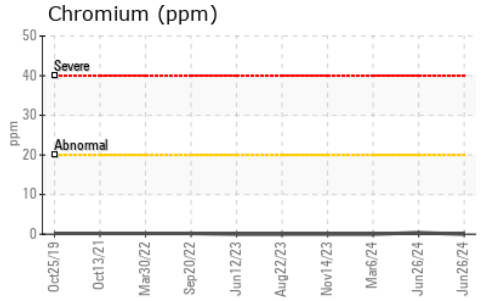
Lead (ppm)



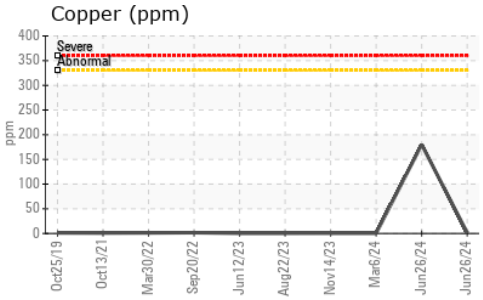
Aluminum (ppm)



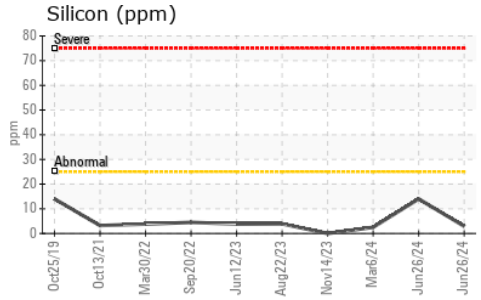
Chromium (ppm)



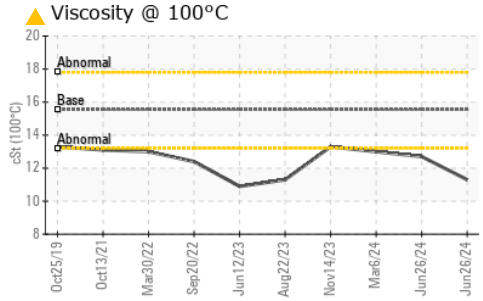
Copper (ppm)



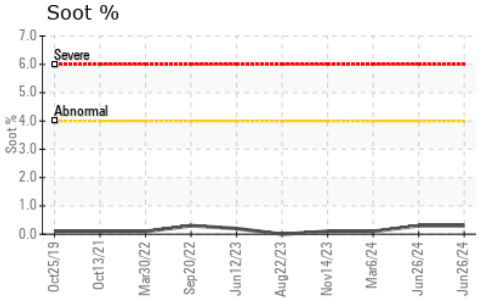
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0113197
Lab Number : 02644324
Unique Number : 5801863
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

Received : 27 Jun 2024
Tested : 28 Jun 2024
Diagnosed : 28 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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