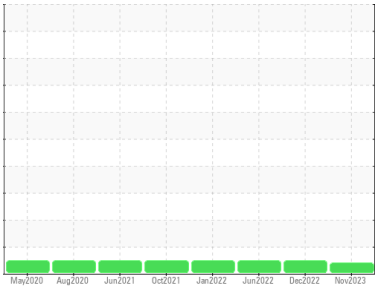
OIL ANALYSIS REPORT

Machine Id
524002
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



VISCOSITY

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 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		**GFL0097322**	GFL0065897	GFL0055366
Sample Date		Client Info		**16 Nov 2023**	15 Dec 2022	30 Jun 2022
Machine Age	hrs	Client Info		**0**	19001	18473
Oil Age	hrs	Client Info		**19972**	528	549
Oil Changed		Client Info		**N/A**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Glycol	WC Method		**NEG**	0.0	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>120	**10**	12	15
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	**2**	2	2
Titanium	ppm	ASTM D5185(m)	>2	**0**	<1	<1
Silver	ppm	ASTM D5185(m)	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**3**	7	6
Lead	ppm	ASTM D5185(m)	>40	**2**	1	1
Copper	ppm	ASTM D5185(m)	>330	**3**	3	6
Tin	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
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)	0	**18**	4	6
Barium	ppm	ASTM D5185(m)	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**42**	59	59
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**538**	930	939
Calcium	ppm	ASTM D5185(m)	1070	**1651**	1120	1079
Phosphorus	ppm	ASTM D5185(m)	1150	**725**	1041	963
Zinc	ppm	ASTM D5185(m)	1270	**892**	1169	1169
Sulfur	ppm	ASTM D5185(m)	2060	**1966**	2392	2464
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

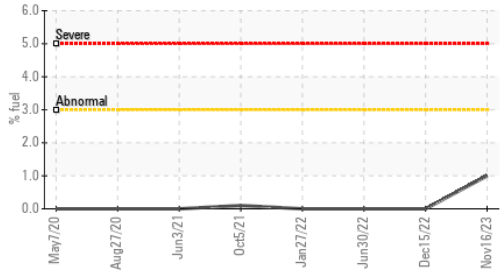
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**5**	4	5
Sodium	ppm	ASTM D5185(m)		**4**	6	8
Potassium	ppm	ASTM D5185(m)	>20	**2**	6	6
Fuel	%	ASTM D7593*	>3.0	**1**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0.3**	0.2	0
Nitration	Abs/cm	ASTM D7624*	>20	**8.6**	8.5	3.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.6**	21.0	14.6

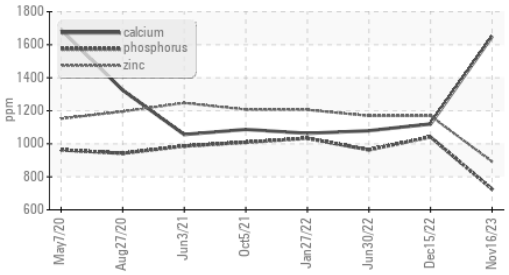
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**21.4**	16.3	5.7

OIL ANALYSIS REPORT

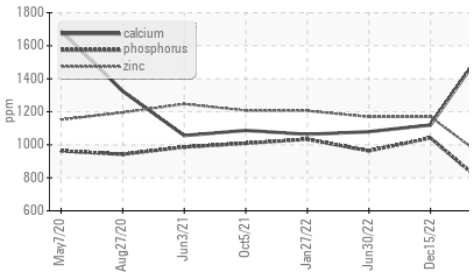
Fuel Dilution



Additives



Additives

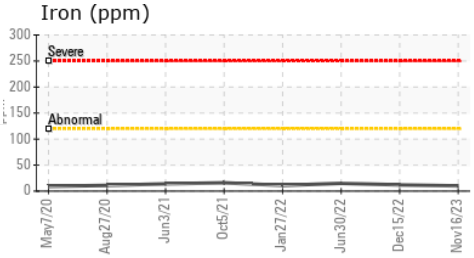


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	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

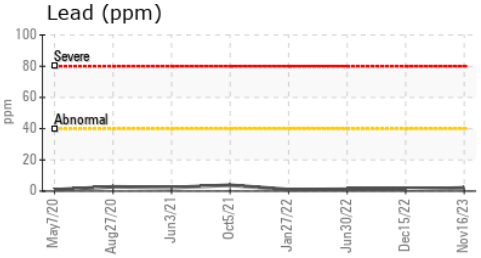
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ **11.5**	13.0	13.0

GRAPHS

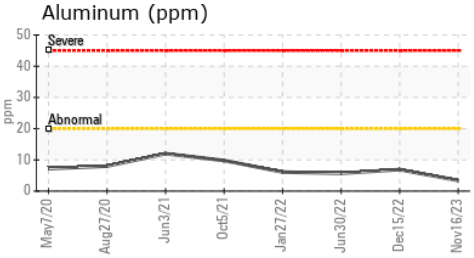
Iron (ppm)



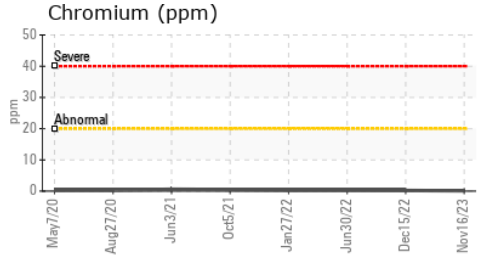
Lead (ppm)



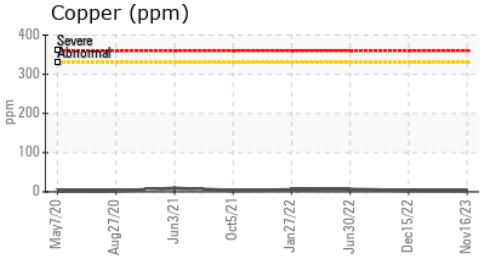
Aluminum (ppm)



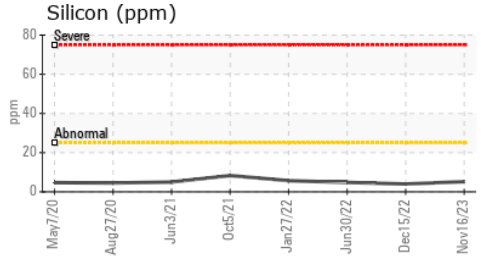
Chromium (ppm)



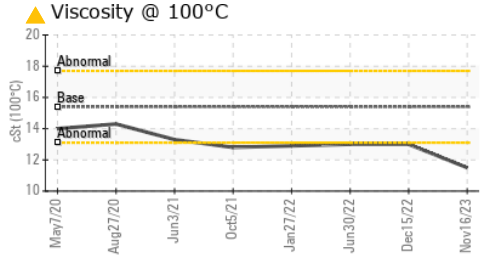
Copper (ppm)



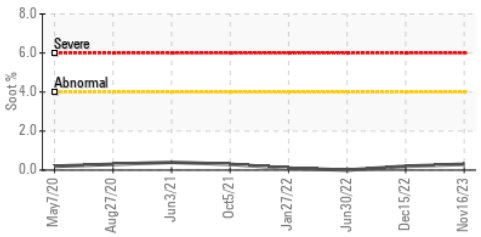
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0097322
Lab Number : 02597023
Unique Number : 5682103
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, Visual)

Received : 17 Nov 2023
Diagnosed : 20 Nov 2023
Diagnostician : 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.

GFL Environmental - 246 - Windsor
2700 Deziel Dr
Windsor, ON
CA N8W 5H8
Contact: Dave Varga
dvarga@gflenv.com
T: (519)944-8009
F: