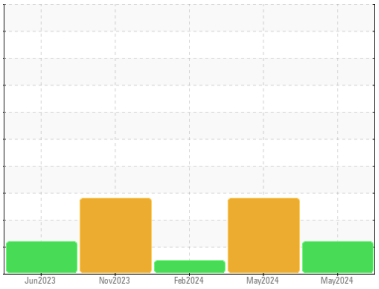
OIL ANALYSIS REPORT

Machine Id
5599
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

Sample Rating Trend



FUEL

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0112523**	GFL0118959	GFL0102588
Sample Date		Client Info		**22 May 2024**	03 May 2024	05 Feb 2024
Machine Age	hrs	Client Info		**21150**	21234	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**ABNORMAL**	SEVERE	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	**3**	7	12
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	<1
Nickel	ppm	ASTM D5185(m)	>5	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	3	3
Lead	ppm	ASTM D5185(m)	>40	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>330	**<1**	1	3
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)	2	**2**	1	2
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**53**	50	60
Manganese	ppm	ASTM D5185(m)	0	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	950	**854**	810	979
Calcium	ppm	ASTM D5185(m)	1050	**925**	890	1092
Phosphorus	ppm	ASTM D5185(m)	995	**912**	858	990
Zinc	ppm	ASTM D5185(m)	1180	**1030**	997	1186
Sulfur	ppm	ASTM D5185(m)	2600	**2310**	2223	2478
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**2**	3	5
Sodium	ppm	ASTM D5185(m)		**52**	45	9
Potassium	ppm	ASTM D5185(m)	>20	**2**	2	5
Fuel	%	ASTM D7593*	>3.0	▲ **4.9**	▲ 15.3	0.8

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0**	0	0.2
Nitration	Abs/cm	ASTM D7624*	>20	**5.1**	7.5	8.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	**18.0**	17.6	20.2

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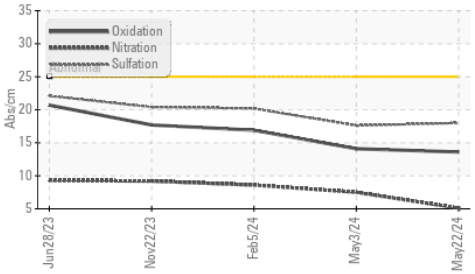
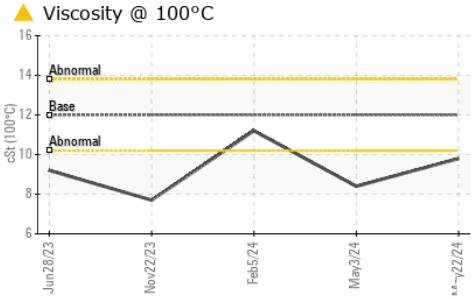
FT-IR (Direct Trend)



Viscosity @ 100°C



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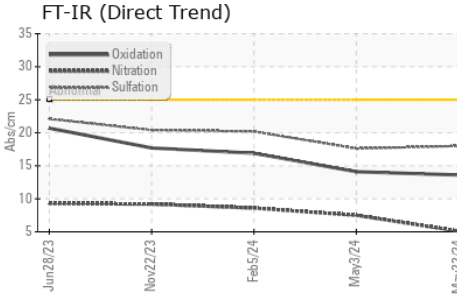


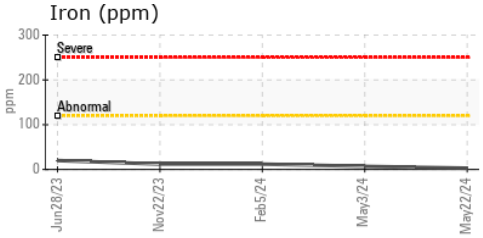
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**13.6**	14.1	16.9

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

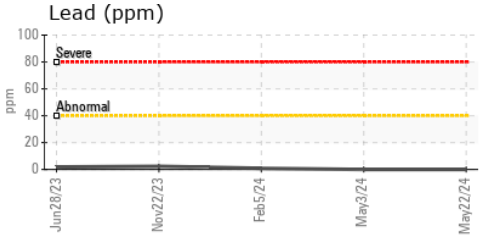
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	▲ **9.8**	▲ 8.4	11.2

GRAPHS

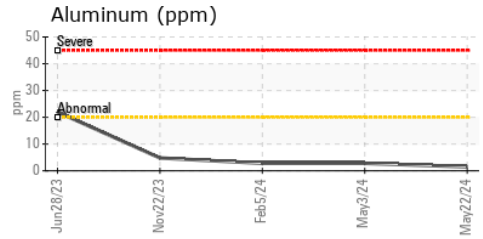
Iron (ppm)



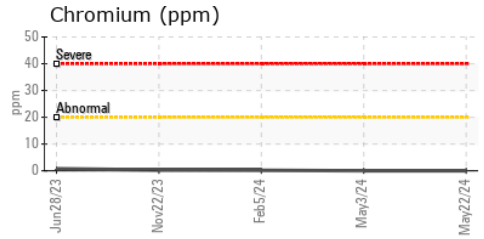
Lead (ppm)



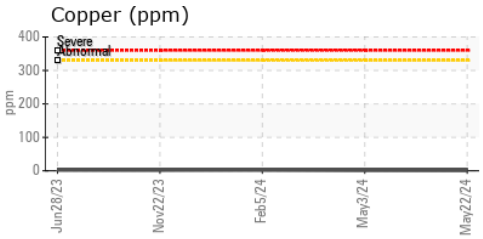
Aluminum (ppm)



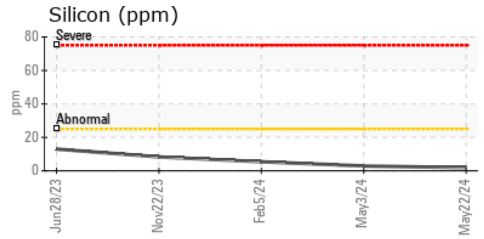
Chromium (ppm)



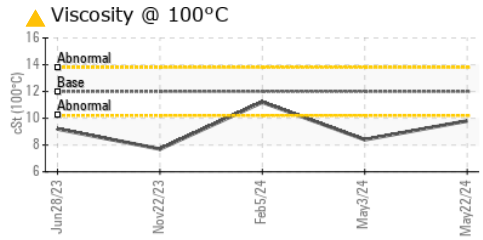
Copper (ppm)



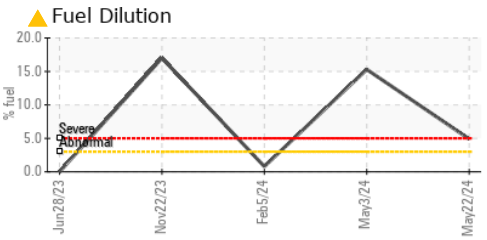
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0112523
Lab Number : 02638388
Unique Number : 5787550
Test Package : MOB 1 (Additional Tests: PercentFuel, Visual)

Received : 29 May 2024
Tested : 30 May 2024
Diagnosed : 30 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.

GFL Environmental - 554 - Edmonton SW
8409 -15th Street NW
Edmonton, AB
CA T6P 0B8
Contact: Tim Greig
tgreig@gflenv.com
T: (780)231-0521
F: