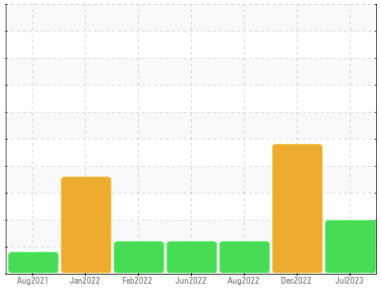
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
201076
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. Please specify the component make and model with your next sample.

Wear
Metal levels are typical for a new component breaking in.

Contamination
Light fuel dilution occurring. Test for glycol is negative. No other contaminants were detected 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		**GFL0084201**	GFL0063536	GFL0050491
Sample Date		Client Info		**24 Jul 2023**	19 Dec 2022	12 Aug 2022
Machine Age	kms	Client Info		**12625**	320221	309154
Oil Age	kms	Client Info		**600**	0	0
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**ATTENTION**	SEVERE	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**52**	94	26
Chromium	ppm	ASTM D5185(m)	>20	**2**	5	1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	3	<1
Titanium	ppm	ASTM D5185(m)		**0**	<1	<1
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**6**	4	2
Lead	ppm	ASTM D5185(m)	>40	**4**	10	2
Copper	ppm	ASTM D5185(m)	>330	**4**	4	2
Tin	ppm	ASTM D5185(m)	>15	**<1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**<1**	<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	▲ **47**	4	3
Barium	ppm	ASTM D5185(m)	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**97**	73	60
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	▲ **200**	930	927
Calcium	ppm	ASTM D5185(m)	1070	▲ **1969**	1074	1037
Phosphorus	ppm	ASTM D5185(m)	1150	**1122**	1018	966
Zinc	ppm	ASTM D5185(m)	1270	**1199**	1143	1145
Sulfur	ppm	ASTM D5185(m)	2060	**3143**	2410	2559
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**23**	12	6
Sodium	ppm	ASTM D5185(m)		**143**	▲ 170	41
Potassium	ppm	ASTM D5185(m)	>20	**125**	▲ 177	32
Fuel	%	ASTM D7593*	>5	▲ **3.3**	⬢ 9.6	▲ 6.5
Glycol	%	ASTM D7922*		**0.0**	0.0	0.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.5**	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	**10.6**	13.2	9.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.1**	27.5	21.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**16.3**	28.8	19.9

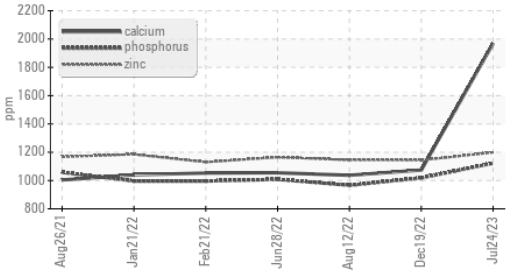
OIL ANALYSIS REPORT

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

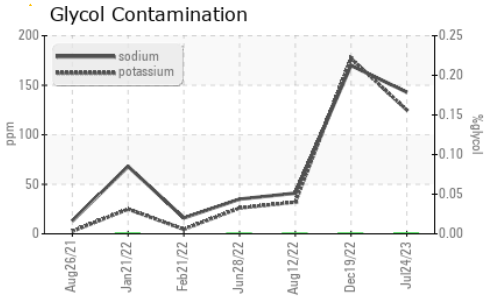
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**13.3**	▲ 10.9	▲ 11.5

GRAPHS

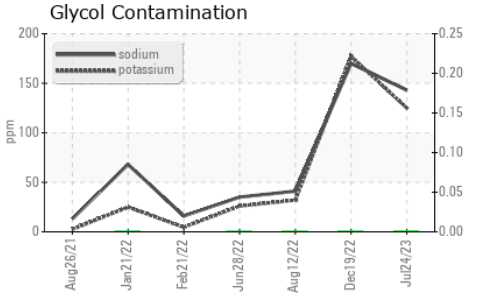
▲ Additives



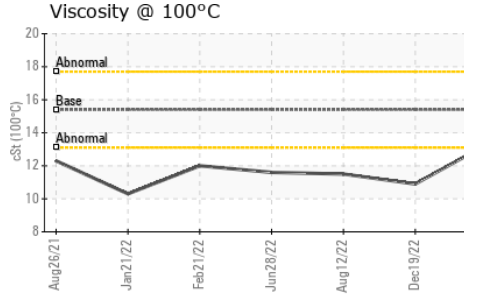
Glycol Contamination



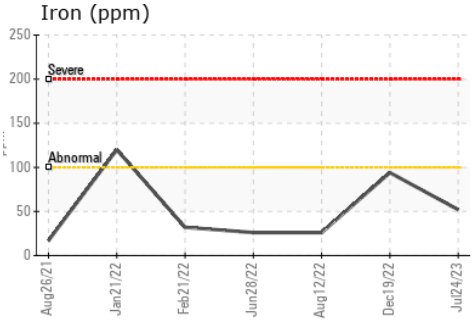
Glycol Contamination



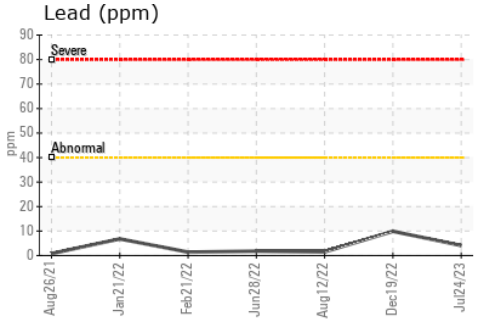
Viscosity @ 100°C



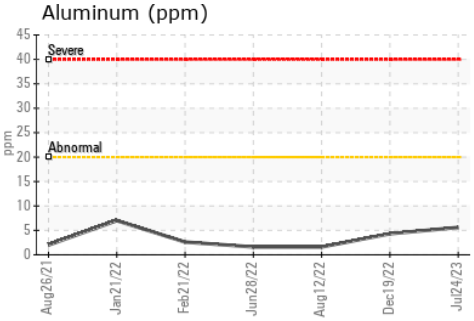
Iron (ppm)



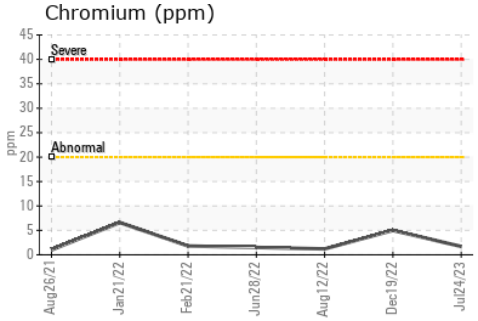
Lead (ppm)



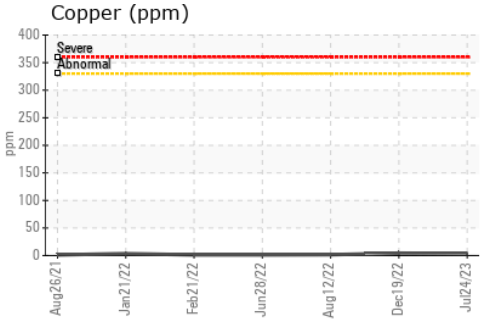
Aluminum (ppm)



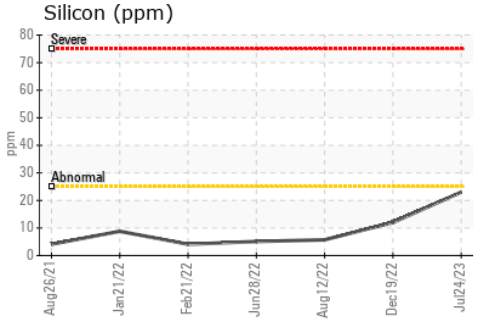
Chromium (ppm)



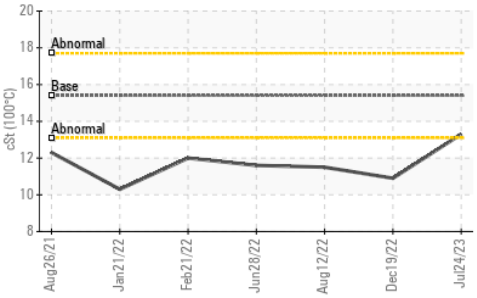
Copper (ppm)



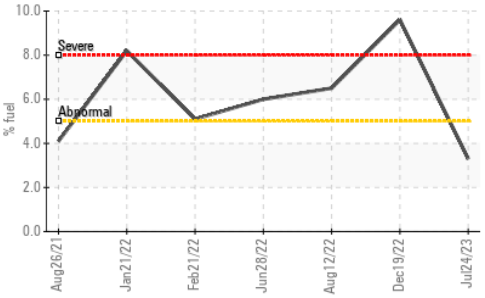
Silicon (ppm)



Viscosity @ 100°C



▲ Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 574 - Vancouver Fleet**
Sample No. : GFL0084201 **Received** : 02 Aug 2023
Lab Number : 02573587 **Diagnosed** : 03 Aug 2023
Unique Number : 5618638 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: Glycol, PercentFuel)

70 Golden Drive,
Coquitlam, BC
CA V3K 6B5
Contact: Allison Adams
aadams@gflenv.com
T: (604)529-4023
F:

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.