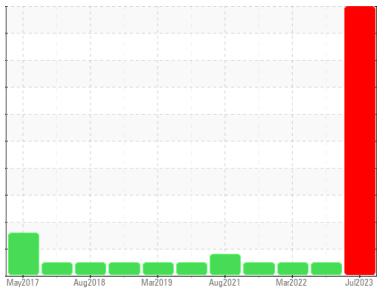
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
8133
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Wear

We have assumed that the oil was taken hot, according to the sampling instructions. Chromium ppm levels are abnormal. Copper ppm levels are noted. Ring wear is indicated. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Contamination

Test for glycol is positive. There is a high concentration of glycol present in the oil.

Fluid Condition

Viscosity of sample indicates oil is within ISO 320 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0085958**	GFL0039045	GFL0041440
Sample Date		Client Info		**14 Jul 2023**	28 Apr 2022	02 Mar 2022
Machine Age	hrs	Client Info		**0**	7265	0
Oil Age	hrs	Client Info		**0**	600	0
Oil Changed		Client Info		**N/A**	Not Changd	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	**66**	19	49
Chromium	ppm	ASTM D5185(m)	>5	▲ **8**	<1	2
Nickel	ppm	ASTM D5185(m)	>2	**<1**	<1	1
Titanium	ppm	ASTM D5185(m)		**<1**	0	0
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	<1
Aluminum	ppm	ASTM D5185(m)	>30	**8**	2	3
Lead	ppm	ASTM D5185(m)	>30	**15**	<1	3
Copper	ppm	ASTM D5185(m)	>150	▲ **305**	<1	2
Tin	ppm	ASTM D5185(m)	>5	**1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**0**	<1	<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)	2	**4**	2	3
Barium	ppm	ASTM D5185(m)	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	▲ **222**	58	61
Manganese	ppm	ASTM D5185(m)	0	**2**	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	**744**	997	1034
Calcium	ppm	ASTM D5185(m)	1050	**856**	1037	1086
Phosphorus	ppm	ASTM D5185(m)	995	**868**	1031	1082
Zinc	ppm	ASTM D5185(m)	1180	**974**	1202	1259
Sulfur	ppm	ASTM D5185(m)	2600	**2127**	2532	2474
Lithium	ppm	ASTM D5185(m)		**<1**	0	<1

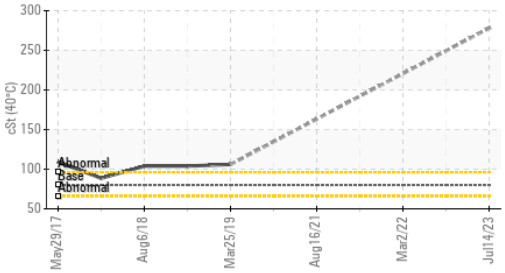
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**16**	5	7
Sodium	ppm	ASTM D5185(m)		▲ **3941**	7	9
Potassium	ppm	ASTM D5185(m)	>20	▲ **33**	1	2
Glycol	%	ASTM D7922*		● **0.441**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.9**	0.2	1.3
Nitration	Abs/cm	ASTM D7624*	>20	**18.8**	5.2	11.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**23.6**	17.5	23.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**17.5**	9.7	19.0

OIL ANALYSIS REPORT

Viscosity @ 40°C

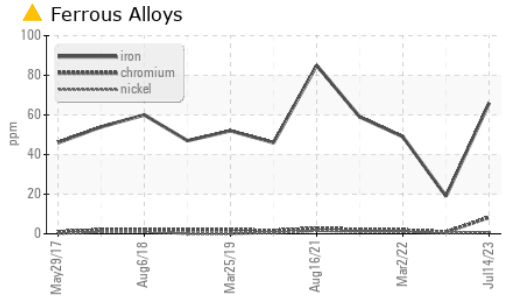


VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

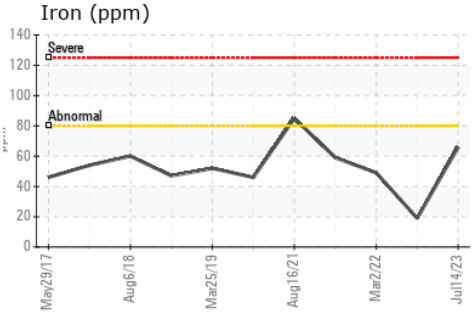
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	80.1	▲ **278**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**678**	11.5	12.1

GRAPHS

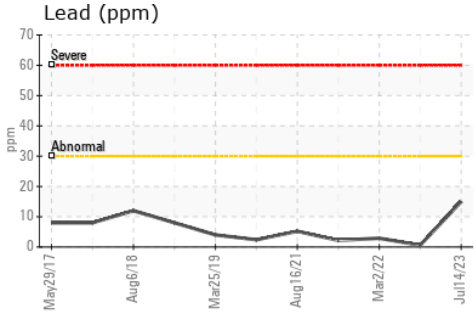
Ferrous Alloys



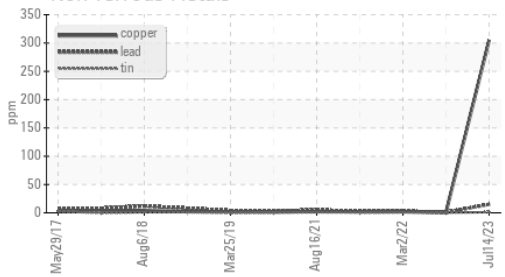
Iron (ppm)



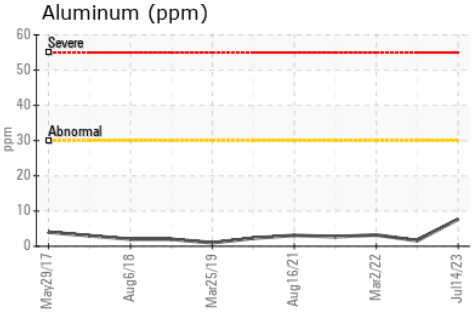
Lead (ppm)



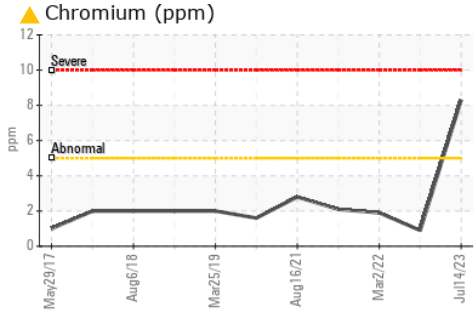
Non-ferrous Metals



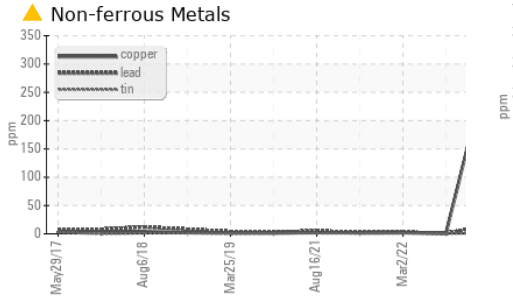
Aluminum (ppm)



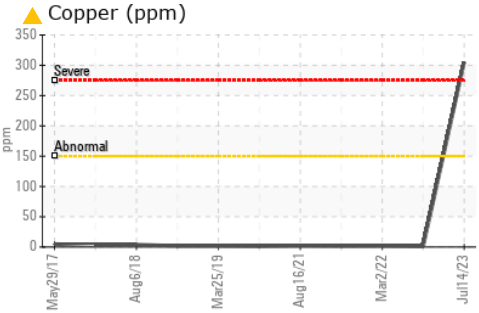
Chromium (ppm)



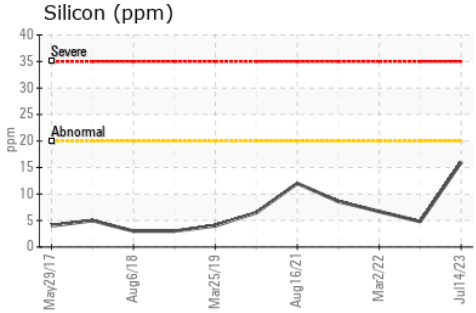
Non-ferrous Metals



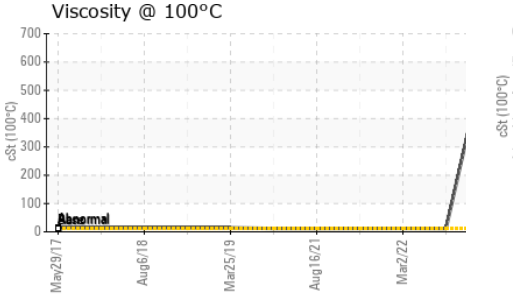
Copper (ppm)



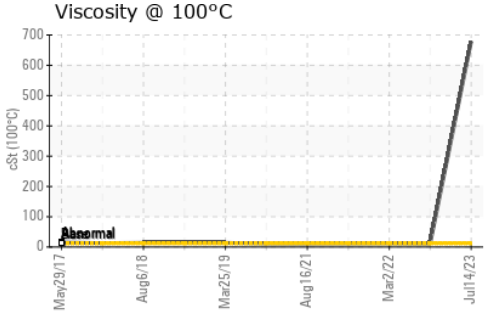
Silicon (ppm)



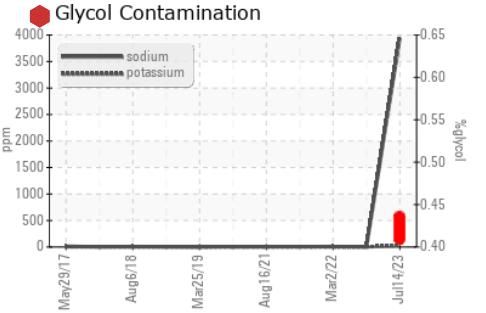
Viscosity @ 100°C



Viscosity @ 100°C



Glycol Contamination



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 554 - Edmonton SW**
Sample No. : GFL0085958 **Received** : 28 Jul 2023 8409 -15th Street NW
Lab Number : 02572886 **Diagnosed** : 31 Jul 2023 Edmonton, AB
Unique Number : 5617937 **Diagnostician** : Kevin Marson CA T6P 0B8
Test Package : MOB 1 (Additional Tests: Glycol, KV40, VI) Contact: Antonio De Rosa

To discuss this sample report, contact Customer Service at 1-800-268-2131. aderosa@gflenv.com
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (780)509-2640
Validity of results and interpretation are based on the sample and information as supplied. F: (780)444-8851