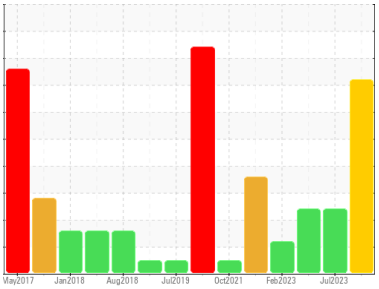
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
8196
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We advise that you check for the source of the coolant leak. 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

Test for glycol is positive. There is a high amount of fuel present in the oil. There is a light concentration of glycol 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		**GFL0097608**	GFL0085810	GFL0085954
Sample Date		Client Info		**09 Nov 2023**	31 Jul 2023	16 Jun 2023
Machine Age	hrs	Client Info		**23153**	22649	22477
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**48**	30	69
Chromium	ppm	ASTM D5185(m)	>20	**5**	4	7
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	1
Titanium	ppm	ASTM D5185(m)		**0**	<1	<1
Silver	ppm	ASTM D5185(m)	>3	**<1**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	**8**	7	13
Lead	ppm	ASTM D5185(m)	>40	**34**	4	18
Copper	ppm	ASTM D5185(m)	>330	**4**	2	4
Tin	ppm	ASTM D5185(m)	>15	**1**	<1	2
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

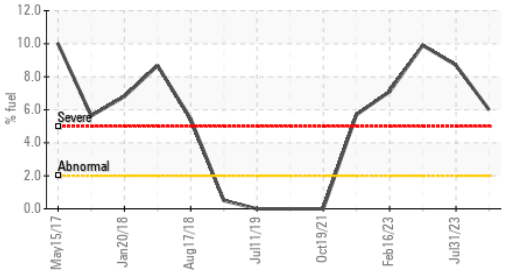
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	2	**5**	2	1
Barium	ppm	ASTM D5185(m)	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**88**	56	57
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	2
Magnesium	ppm	ASTM D5185(m)	950	**834**	901	907
Calcium	ppm	ASTM D5185(m)	1050	**1004**	977	1007
Phosphorus	ppm	ASTM D5185(m)	995	**759**	1011	948
Zinc	ppm	ASTM D5185(m)	1180	**1012**	1099	1096
Sulfur	ppm	ASTM D5185(m)	2600	**2313**	2464	2337
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**7**	10	14
Sodium	ppm	ASTM D5185(m)		▲ **680**	6	17
Potassium	ppm	ASTM D5185(m)	>20	▲ **20**	7	18
Fuel	%	ASTM D7593*	>2.0	● **6**	● 8.7	● 9.9
Glycol	%	ASTM D7922*		▲ **0.022**	0.0	0.0

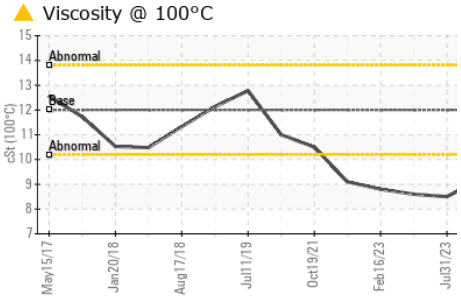
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.3**	0.4	0.9
Nitration	Abs/cm	ASTM D7624*	>20	**11.4**	8.0	10.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**23.3**	22.6	24.3

OIL ANALYSIS REPORT

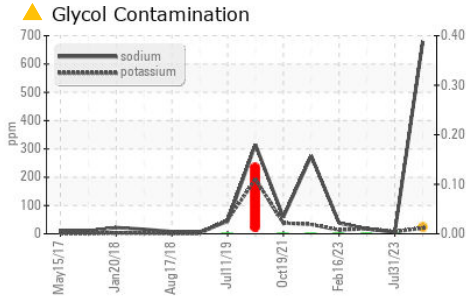
Fuel Dilution



Viscosity @ 100°C



Glycol Contamination



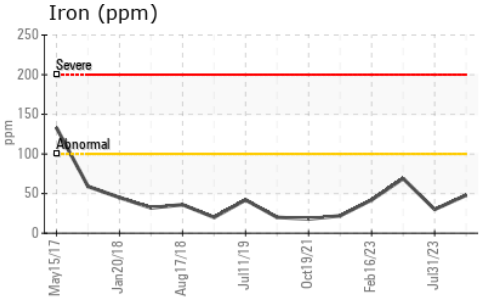
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**23.3**	19.8	23.5

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

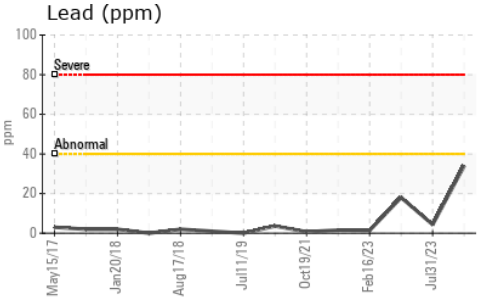
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	▲ **9.2**	▲ 8.5	▲ 8.6

GRAPHS

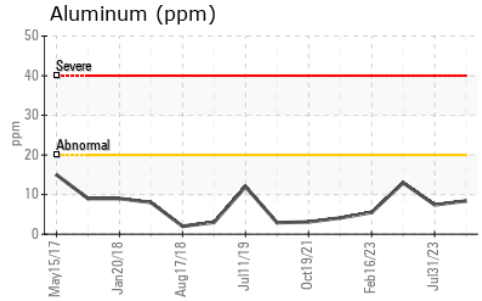
Iron (ppm)



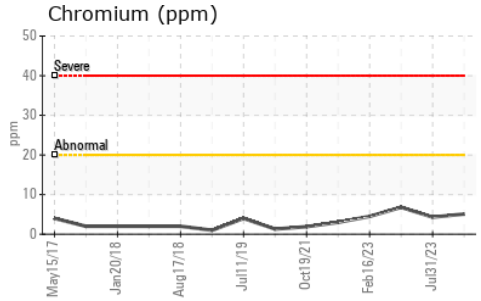
Lead (ppm)



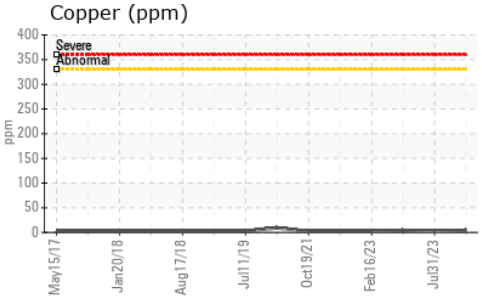
Aluminum (ppm)



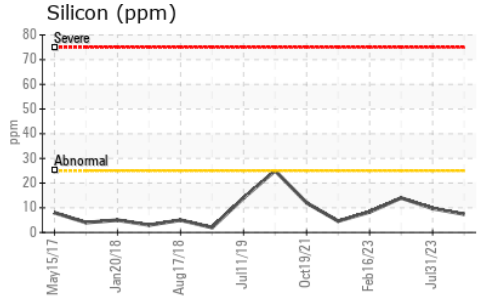
Chromium (ppm)



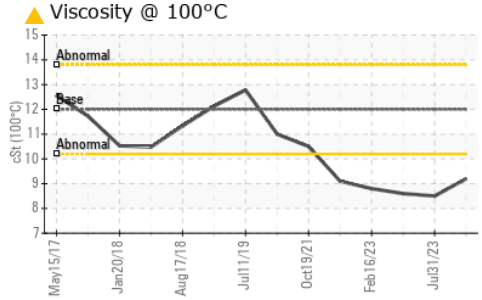
Copper (ppm)



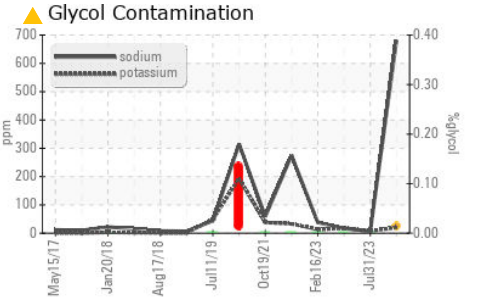
Silicon (ppm)



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. : GFL0097608 **Received** : 20 Nov 2023
Lab Number : 02597449 **Diagnosed** : 21 Nov 2023
Unique Number : 5682529 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: Glycol, PercentFuel)

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