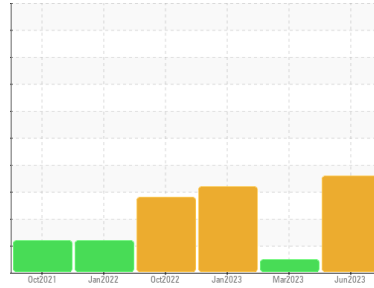




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
701072

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. Check for low coolant level. 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 high amount of fuel present in the oil. Water treatment chemicals present, indicating slow coolant leak. Tests confirm the presence of fuel in the oil. Test for glycol is negative.

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. The condition of the oil is acceptable for the time in service (see recommendation).

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0084052	GFL0073202	GFL0063572
Sample Date	Client Info	20 Jun 2023	30 Mar 2023	09 Jan 2023
Machine Age	hrs	23388	23129	22875
Oil Age	hrs	600	600	600
Oil Changed	Client Info	Changed	Changed	N/A
Sample Status		SEVERE	NORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >100	14	16	22
Chromium	ppm	ASTM D5185(m) >20	<1	<1	<1
Nickel	ppm	ASTM D5185(m) >4	0	0	<1
Titanium	ppm	ASTM D5185(m)	<1	<1	<1
Silver	ppm	ASTM D5185(m) >3	<1	0	0
Aluminum	ppm	ASTM D5185(m) >20	2	3	3
Lead	ppm	ASTM D5185(m) >40	<1	0	<1
Copper	ppm	ASTM D5185(m) >330	1	1	2
Tin	ppm	ASTM D5185(m) >15	0	<1	<1
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) 0	4	4	2
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 60	67	67	87
Manganese	ppm	ASTM D5185(m) 0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	928	959	957
Calcium	ppm	ASTM D5185(m) 1070	982	1087	1093
Phosphorus	ppm	ASTM D5185(m) 1150	1036	1104	1101
Zinc	ppm	ASTM D5185(m) 1270	1117	1178	1204
Sulfur	ppm	ASTM D5185(m) 2060	2499	2750	2766
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >25	11	16	28
Sodium	ppm	ASTM D5185(m)	224	76	258
Potassium	ppm	ASTM D5185(m) >20	102	142	465
Fuel	%	ASTM D7593* >2.0	5.7	<1.0	2.7
Glycol	%	ASTM D7922*	0.0	0.0	0.0

INFRA-RED

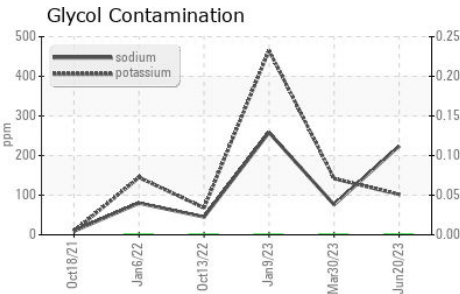
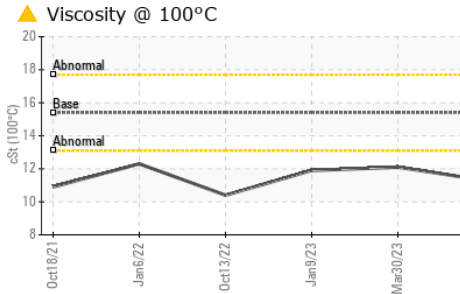
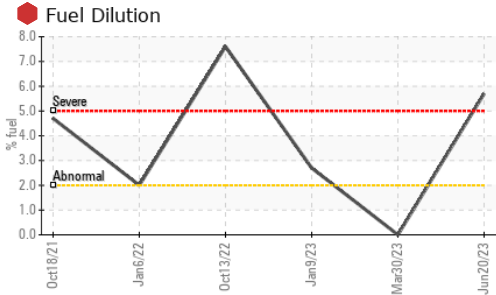
method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	0	0.1	0
Nitration	Abs/cm	ASTM D7624* >20	18.9	6.7	9.0
Sulfation	Abs/.1mm	ASTM D7415* >30	35.0	18.9	21.2

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414* >25	41.7	14.7	16.6



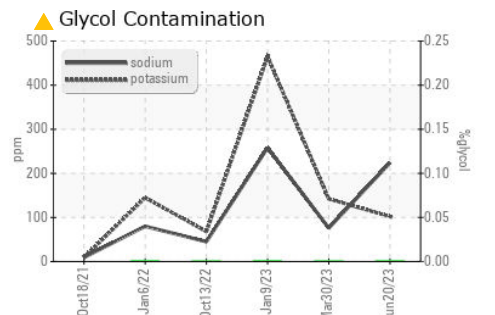
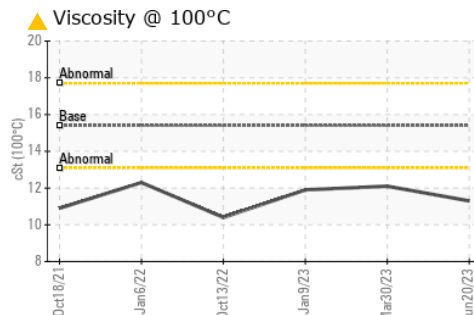
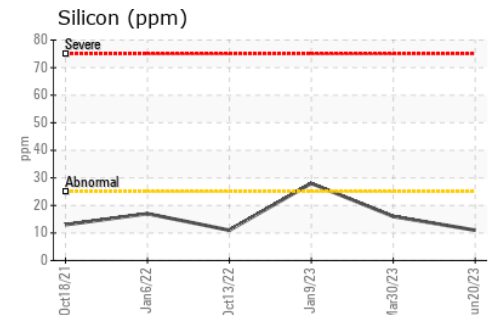
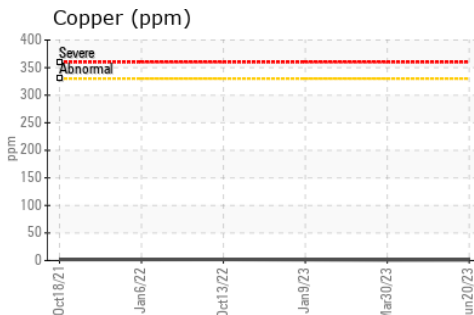
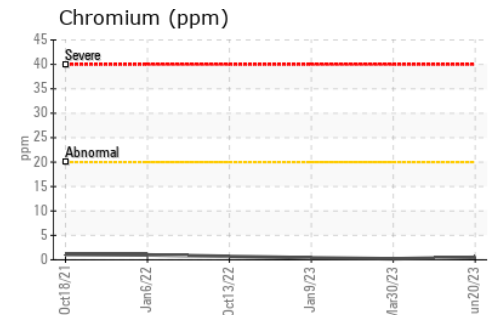
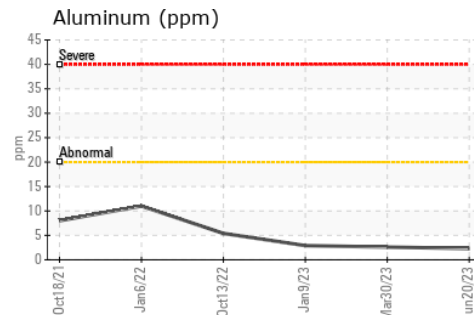
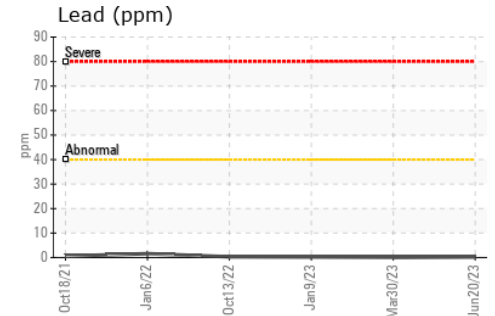
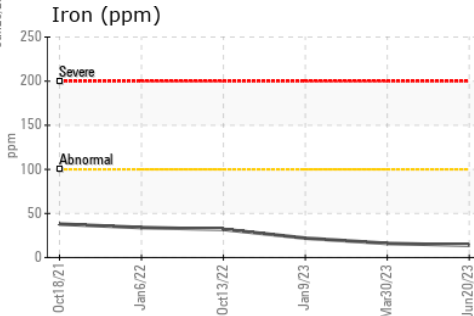
OIL ANALYSIS REPORT



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	▲ 11.3	12.1	11.9

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 574 - Vancouver Fleet
Sample No. : GFL0084052 **Received** : 14 Jul 2023
Lab Number : 02569994 **Diagnosed** : 18 Jul 2023
Unique Number : 5607040 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: FuelDilution, Glycol, PercentFuel)

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.

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