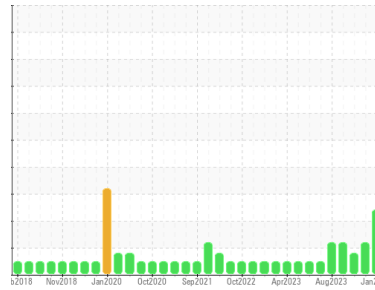




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
701021
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (22 LTR)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. 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

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is a high 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	GFL0097587	GFL0097532	GFL0097564
Sample Date	Client Info	23 Jan 2024	10 Dec 2023	04 Nov 2023
Machine Age	hrs	19772	0	18726
Oil Age	hrs	427	0	591
Oil Changed	Client Info	Changed	N/A	Changed
Sample Status		SEVERE	ABNORMAL	ABNORMAL

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) >75	17	32	11
Chromium	ppm ASTM D5185(m) >5	<1	1	<1
Nickel	ppm ASTM D5185(m) >4	<1	<1	0
Titanium	ppm ASTM D5185(m) >2	0	0	0
Silver	ppm ASTM D5185(m) >2	0	<1	<1
Aluminum	ppm ASTM D5185(m) >15	7	8	6
Lead	ppm ASTM D5185(m) >25	0	<1	0
Copper	ppm ASTM D5185(m) >100	<1	<1	<1
Tin	ppm ASTM D5185(m) >4	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) 0	3	4	5
Barium	ppm ASTM D5185(m) 0	0	0	<1
Molybdenum	ppm ASTM D5185(m) 60	53	52	55
Manganese	ppm ASTM D5185(m) 0	0	0	0
Magnesium	ppm ASTM D5185(m) 1010	847	798	885
Calcium	ppm ASTM D5185(m) 1070	922	889	998
Phosphorus	ppm ASTM D5185(m) 1150	909	837	906
Zinc	ppm ASTM D5185(m) 1270	1031	1001	1114
Sulfur	ppm ASTM D5185(m) 2060	2402	2054	2368
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

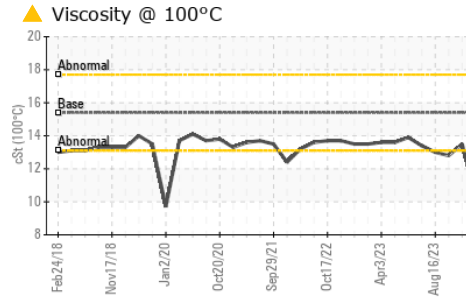
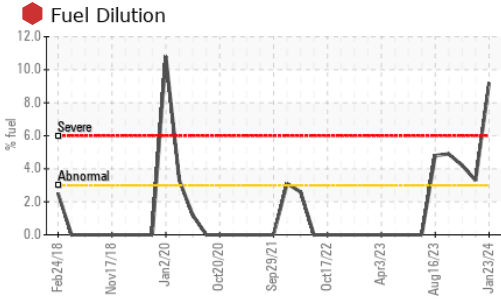
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >25	3	5	5
Sodium	ppm ASTM D5185(m)	5	8	4
Potassium	ppm ASTM D5185(m) >20	11	13	9
Fuel	% ASTM D7593* >3.0	9.2	3.3	4.2

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >6	0.3	0.6	0.2
Nitration	Abs/cm ASTM D7624* >20	10.8	12.5	7.9
Sulfation	Abs.1mm ASTM D7415* >30	20.3	23.4	19.6



OIL ANALYSIS REPORT

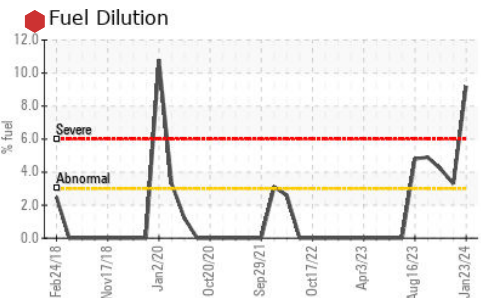
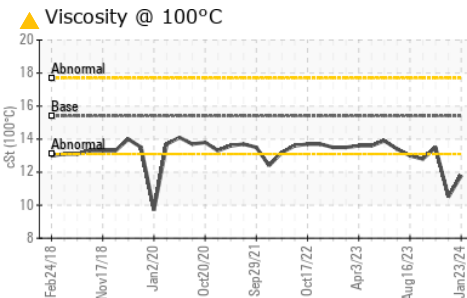
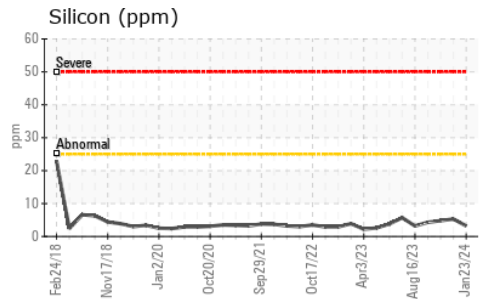
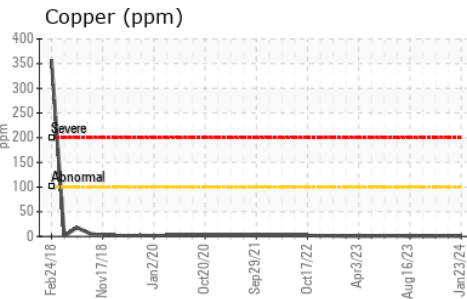
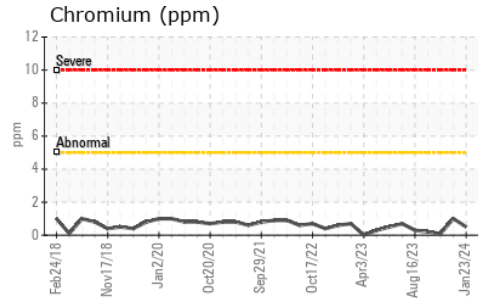
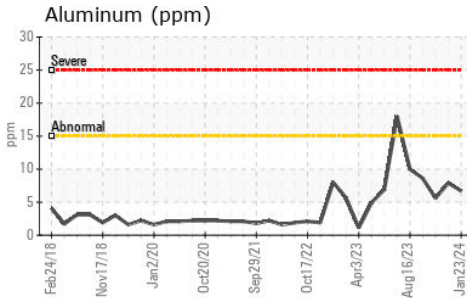
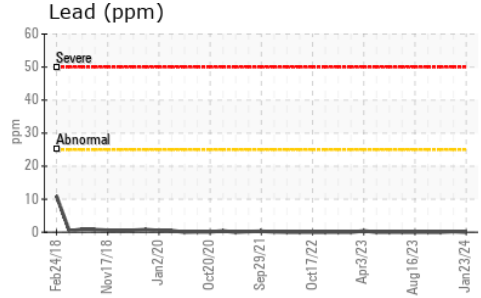
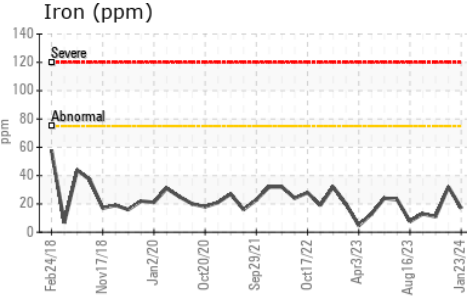


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	19.6	24.9	16.8

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	▲ 11.8	▲ 10.5	13.5

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0097587 **Received** : 25 Jan 2024
Lab Number : 02611063 **Diagnosed** : 26 Jan 2024
Unique Number : 5720158 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: PercentFuel)

GFL Environmental - 216
 15 Bermondsey Road
 Toronto, ON
 CA M4B 1Y9
 Contact: Tom Hatzioannidis
 thatzioannidis@gflenv.com
 T: (416)678-9340
 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.