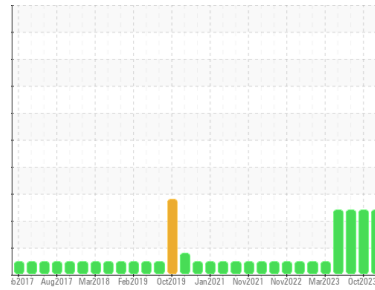




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
GFL216
Machine Id
7177
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (21 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		GFL0108431	GFL0061108	GFL0088945
Sample Date	Client Info		17 Jan 2024	06 Oct 2023	28 Aug 2023
Machine Age	kms	Client Info	216654	17035	0
Oil Age	kms	Client Info	0	383	0
Oil Changed	Client Info		Changed	Changed	N/A
Sample Status			SEVERE	SEVERE	SEVERE

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)	>130	87	22	15
Chromium	ppm	ASTM D5185(m)	>10	5	1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	0	0
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	6	3	2
Lead	ppm	ASTM D5185(m)	>20	1	<1	0
Copper	ppm	ASTM D5185(m)	>125	2	<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	5	5	4
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	51	59	58
Manganese	ppm	ASTM D5185(m)	0	<1	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	801	903	928
Calcium	ppm	ASTM D5185(m)	1070	919	988	1009
Phosphorus	ppm	ASTM D5185(m)	1150	844	937	1021
Zinc	ppm	ASTM D5185(m)	1270	989	1127	1140
Sulfur	ppm	ASTM D5185(m)	2060	2134	2337	2441
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

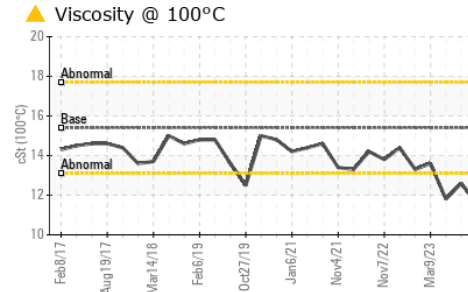
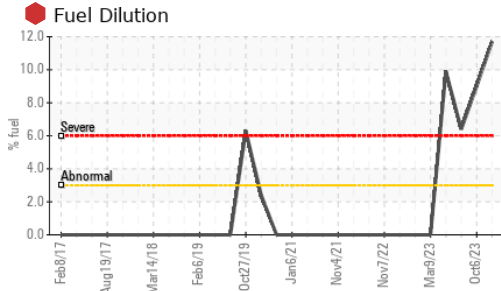
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	8	4	3
Sodium	ppm	ASTM D5185(m)		6	7	6
Potassium	ppm	ASTM D5185(m)	>20	6	4	2
Fuel	%	ASTM D7593*	>3.0	11.7	9	6.4

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>6	1.6	0	0.4
Nitration	Abs/cm	ASTM D7624*	>20	21.4	2.8	11.1
Sulfation	Abs./1mm	ASTM D7415*	>30	34.3	11.9	21.8



OIL ANALYSIS REPORT

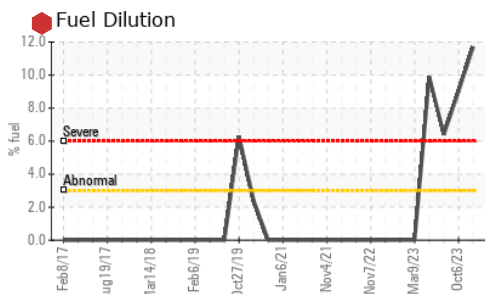
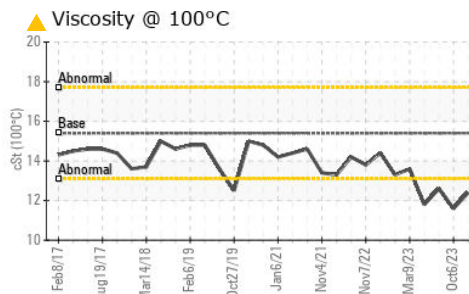
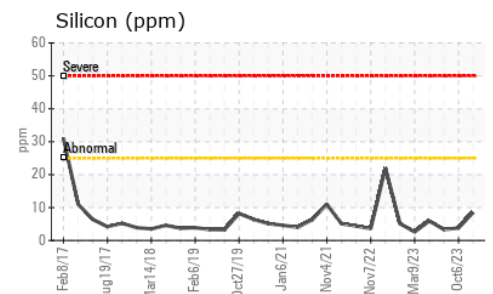
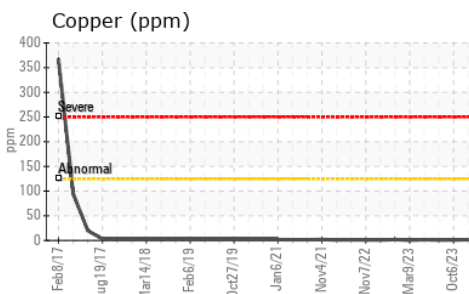
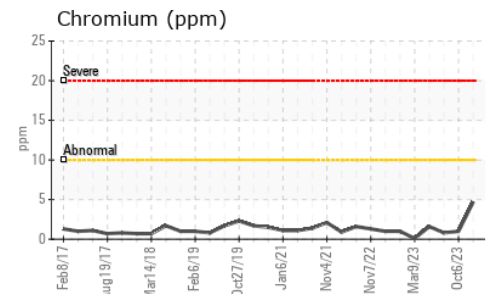
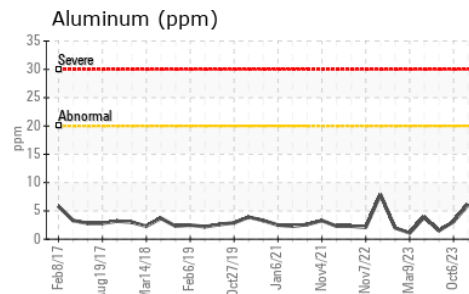
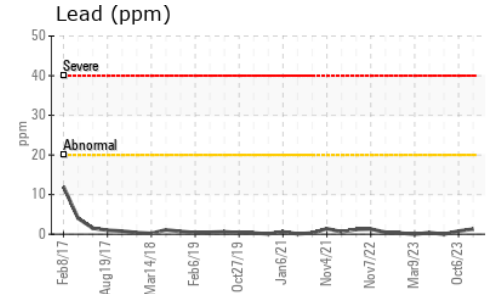
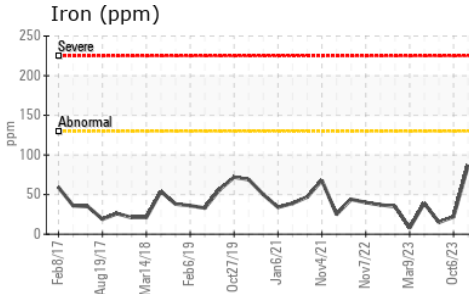


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	47.2	4.0	18.6

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	▲ 12.4	▲ 11.6	▲ 12.6

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 252 - GTA Hauling**
Sample No. : GFL0108431 **Received** : 22 Jan 2024 **3668 Weston Road**
Lab Number : **02610121** **Diagnosed** : 23 Jan 2024 **North York, ON**
Unique Number : 5711207 **Diagnostician** : Kevin Marson **CA M9L 1W2**
Test Package : MOB 1 (Additional Tests: PercentFuel) **Contact: Amanda Cipollone**
acipollone@gflenv.com

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.