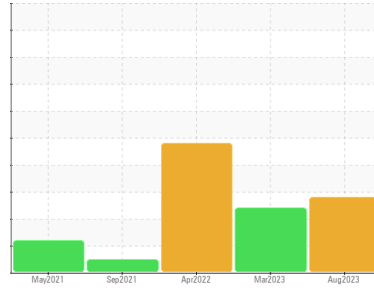




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
816002

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. 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. Test for glycol is negative. 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	GFL0062935	GFL0062920	GFL0041330
Sample Date	Client Info	11 Aug 2023	21 Mar 2023	07 Apr 2022
Machine Age	hrs	16863	16016	14557
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		SEVERE	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >100	40	43	48
Chromium	ppm	ASTM D5185(m) >20	2	2	2
Nickel	ppm	ASTM D5185(m) >4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	0	<1	<1
Silver	ppm	ASTM D5185(m) >3	0	0	<1
Aluminum	ppm	ASTM D5185(m) >20	4	4	9
Lead	ppm	ASTM D5185(m) >40	<1	<1	<1
Copper	ppm	ASTM D5185(m) >330	2	4	4
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	6	5	4
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 60	58	68	123
Manganese	ppm	ASTM D5185(m) 0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	860	847	943
Calcium	ppm	ASTM D5185(m) 1070	993	1025	1083
Phosphorus	ppm	ASTM D5185(m) 1150	938	852	982
Zinc	ppm	ASTM D5185(m) 1270	1060	1029	1245
Sulfur	ppm	ASTM D5185(m) 2060	2178	2255	2565
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >25	12	7	9
Sodium	ppm	ASTM D5185(m)	77	▲ 497	▲ 737
Potassium	ppm	ASTM D5185(m) >20	15	60	▲ 752
Fuel	%	ASTM D7593* >5	● 10.4	▲ 5.1	<1.0
Glycol	%	ASTM D7922*	0.0	0.0	▲ 0.015

INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	1.1	0.8	0.1
Nitration	Abs/cm	ASTM D7624* >20	12.4	13.9	5.5
Sulfation	Abs/.1mm	ASTM D7415* >30	26.2	28.1	16.0

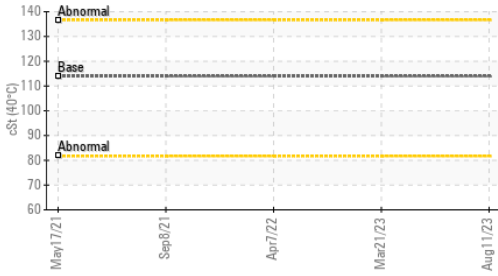
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414* >25	24.0	24.0	7.6



OIL ANALYSIS REPORT

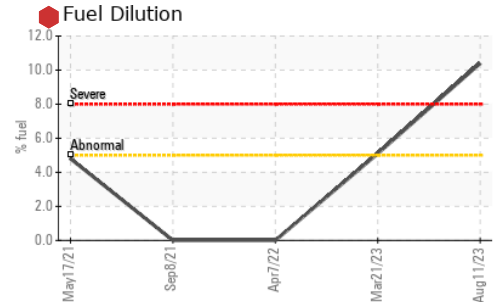
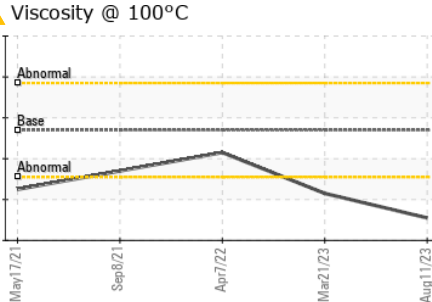
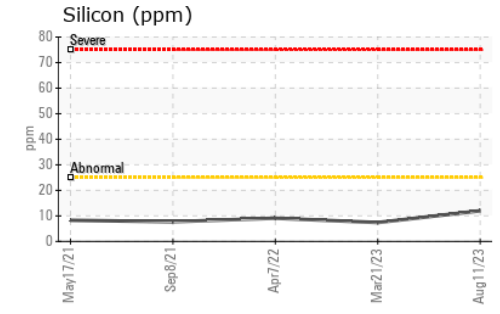
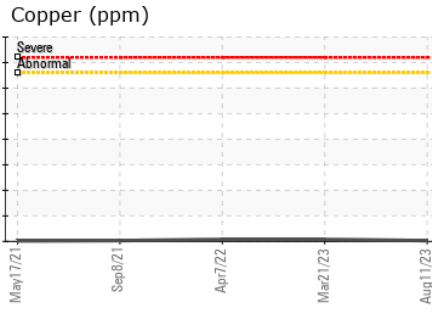
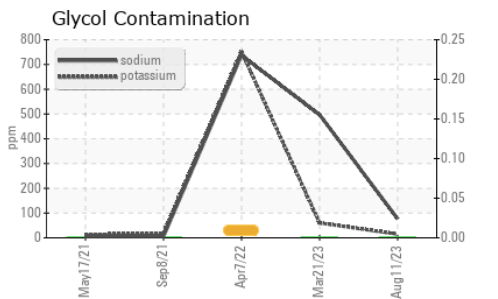
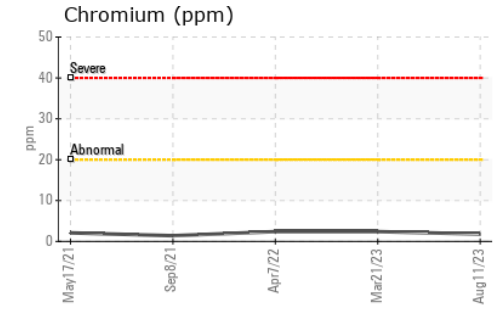
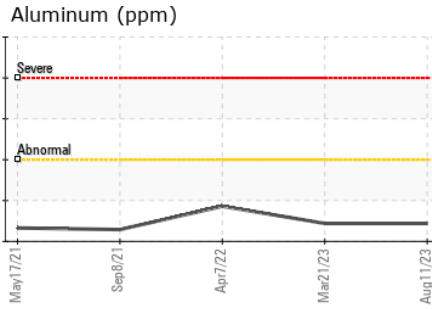
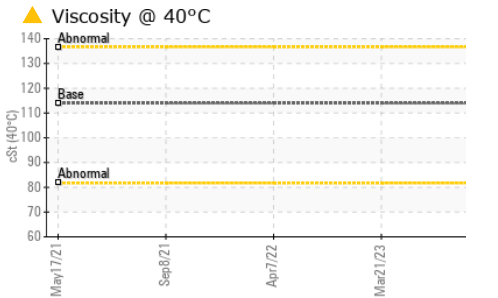
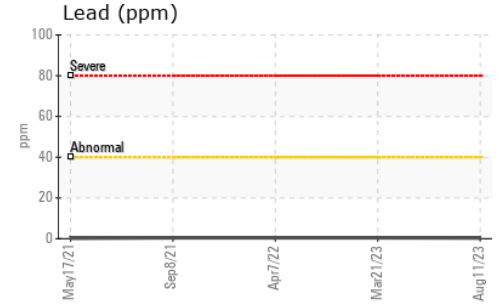
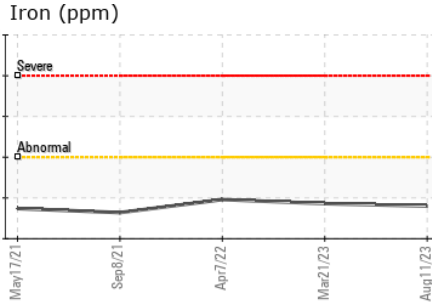
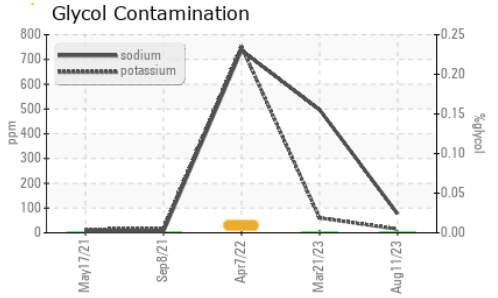
▲ Viscosity @ 40°C



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	113.9 ▲ 70.3	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.4 ▲ 11.1	▲ 12.3	14.3
Viscosity Index (VI)	Scale	ASTM D2270*	142	149	---

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 777 - Belleville-Municipal waste
Sample No. : GFL0062935 **Received** : 21 Aug 2023
Lab Number : 02577140 **Diagnosed** : 22 Aug 2023
Unique Number : 5630200 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: Glycol, KV40, PercentFuel, VI)

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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