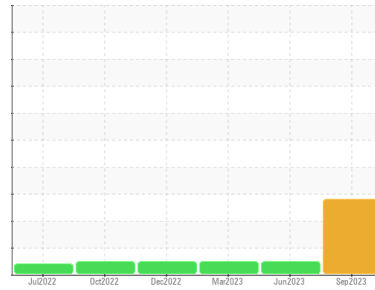




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
420013

Component
Diesel Engine

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

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. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. 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		GFL0038677	GFL0082743	GFL0071234
Sample Date	Client Info		19 Sep 2023	26 Jun 2023	30 Mar 2023
Machine Age	hrs	Client Info	3803	3185	139301
Oil Age	hrs	Client Info	600	600	0
Oil Changed	Client Info		Not Chngd	Changed	Changed
Sample Status			SEVERE	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >110	9	4	0
Chromium	ppm	ASTM D5185m >4	0	<1	<1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	3	0	<1
Lead	ppm	ASTM D5185m >45	0	0	0
Copper	ppm	ASTM D5185m >85	1	<1	1
Tin	ppm	ASTM D5185m >4	<1	<1	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	1	2	2
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	46	69	61
Manganese	ppm	ASTM D5185m 0	0	<1	0
Magnesium	ppm	ASTM D5185m 1010	764	1041	892
Calcium	ppm	ASTM D5185m 1070	879	1201	1097
Phosphorus	ppm	ASTM D5185m 1150	786	1179	1035
Zinc	ppm	ASTM D5185m 1270	1021	1422	1215
Sulfur	ppm	ASTM D5185m 2060	2676	3984	3129

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	4	3	2
Sodium	ppm	ASTM D5185m	5	2	3
Potassium	ppm	ASTM D5185m >20	4	<1	<1
Fuel	%	ASTM D3524 >5	15.6	<1.0	<1.0

INFRA-RED

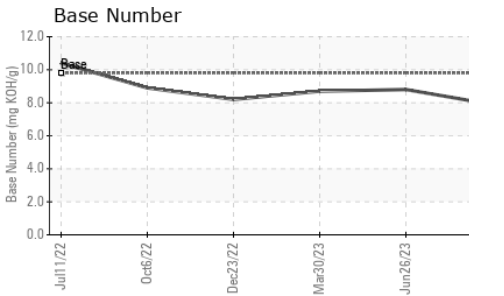
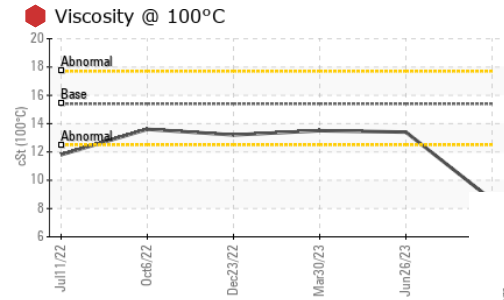
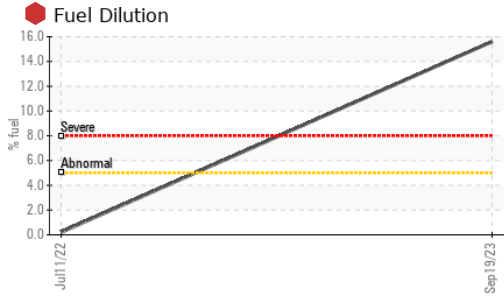
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	0.3	0.3
Nitration	Abs/cm	*ASTM D7624 >20	8.0	7.0	7.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.8	19.4	19.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.3	14.8	14.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.9	8.8	8.7



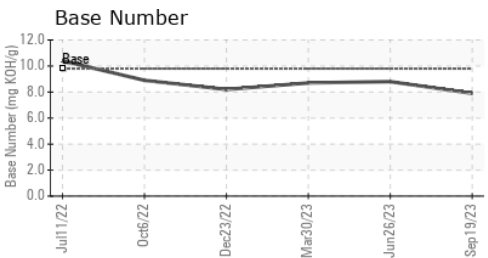
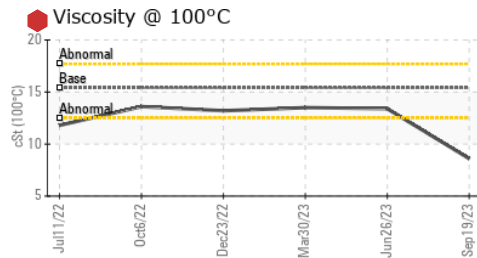
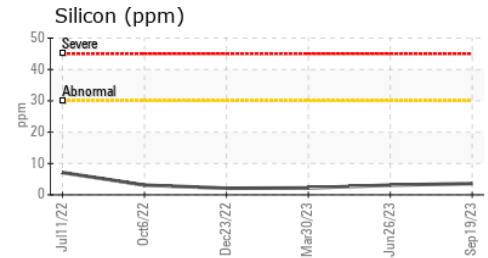
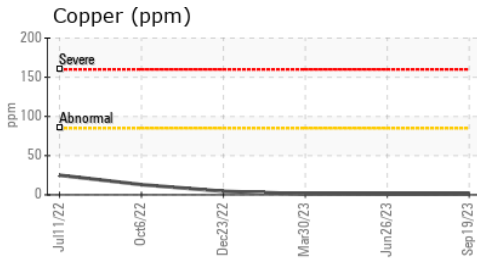
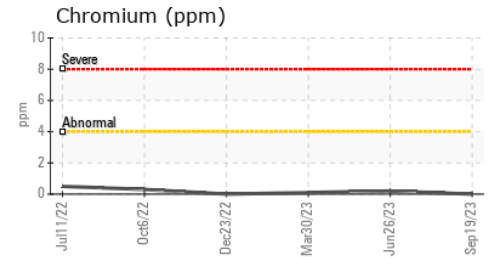
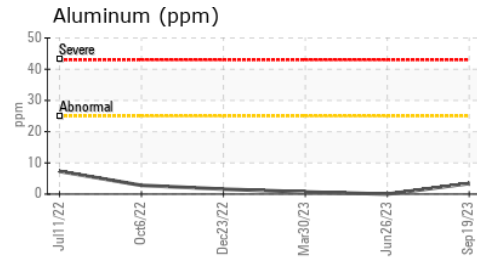
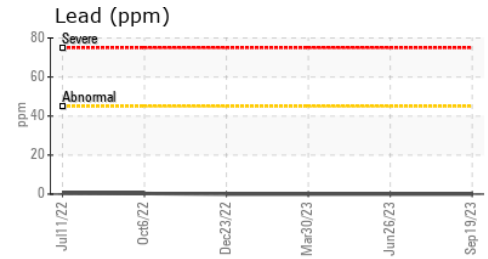
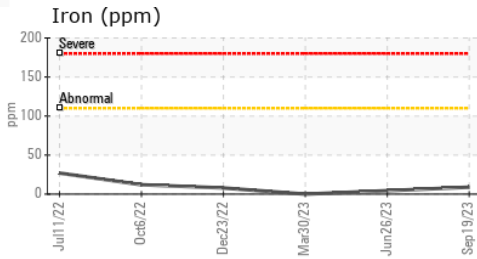
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	8.6	13.4	13.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0038677 **Received** : 22 Sep 2023
Lab Number : 05958357 **Diagnosed** : 26 Sep 2023
Unique Number : 10659570 **Diagnostician** : Wes Davis
Test Package : MOB1+ (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 465 - Pontiac
 888 Baldwin
 Pontiac, MI
 US 48340

Contact: Ricky Matthews
 rickymathews@gflenv.com

T: (586)825-9514

F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)