



PROBLEM SUMMARY

Sample Rating Trend

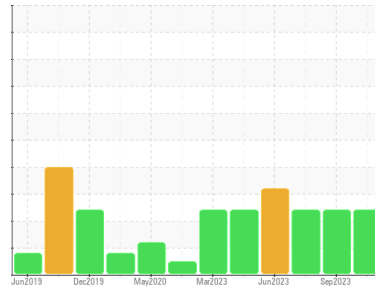
FUEL



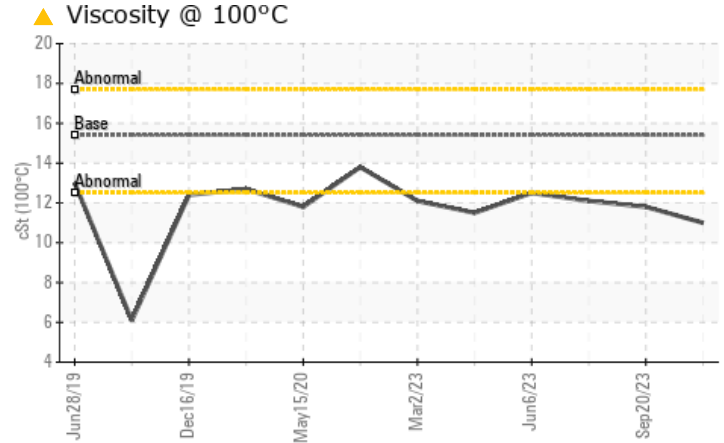
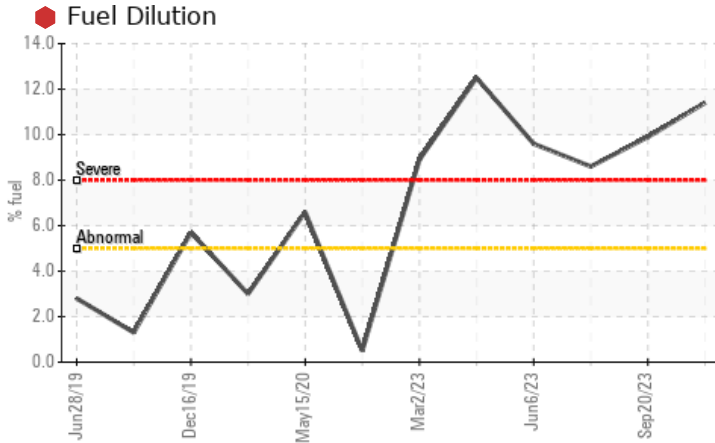
Machine Id
426079-402318

Component
Diesel Engine

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



COMPONENT CONDITION SUMMARY



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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	SEVERE
Fuel	%	ASTM D3524	>5	11.4	9.9	8.6
Visc @ 100°C	cSt	ASTM D445	15.4	11.0	11.8	12.1

Customer Id: GFL836
 Sample No.: GFL0095163
 Lab Number: 06000308
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

20 Sep 2023 Diag: Wes Davis

FUEL



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. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. 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.

[view report](#)



20 Jul 2023 Diag: Wes Davis

FUEL



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. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. 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.

[view report](#)



06 Jun 2023 Diag: Don Baldrige

FUEL



We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Cylinder, crank, or cam shaft wear is indicated. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

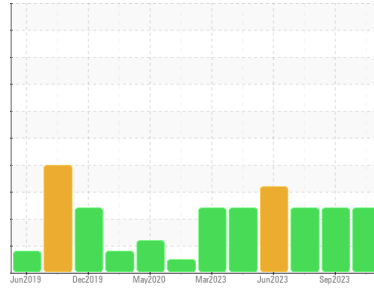
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
426079-402318

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	GFL0095163	GFL0090666	GFL0087157
Sample Date	Client Info	02 Nov 2023	20 Sep 2023	20 Jul 2023
Machine Age	hrs	1935	1751	1551
Oil Age	hrs	0	600	600
Oil Changed	Client Info	Not Chngd	Changed	Changed
Sample Status		SEVERE	SEVERE	SEVERE

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 >100	19	29	38
Chromium	ppm	ASTM D5185m >20	<1	2	2
Nickel	ppm	ASTM D5185m >4	<1	<1	<1
Titanium	ppm	ASTM D5185m	<1	0	<1
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	2	4	2
Lead	ppm	ASTM D5185m >40	<1	<1	<1
Copper	ppm	ASTM D5185m >330	3	8	7
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	2	<1	0
Barium	ppm	ASTM D5185m 0	5	0	0
Molybdenum	ppm	ASTM D5185m 60	57	57	61
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	823	870	947
Calcium	ppm	ASTM D5185m 1070	948	964	1034
Phosphorus	ppm	ASTM D5185m 1150	916	900	950
Zinc	ppm	ASTM D5185m 1270	1085	1138	1183
Sulfur	ppm	ASTM D5185m 2060	2653	2711	3116

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	6	4	4
Sodium	ppm	ASTM D5185m	0	5	8
Potassium	ppm	ASTM D5185m >20	3	5	<1
Fuel	%	ASTM D3524 >5	11.4	9.9	8.6

INFRA-RED

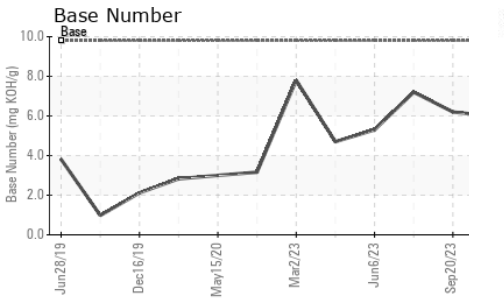
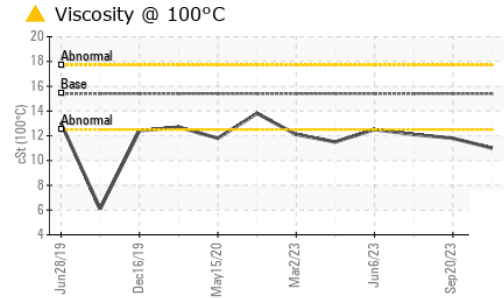
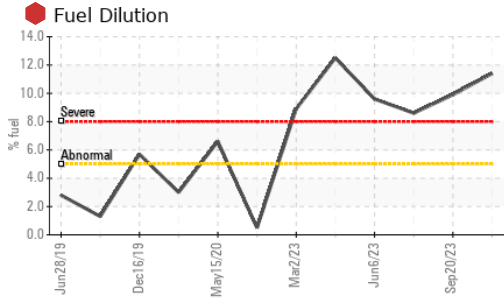
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	0.7	0.9	1.1
Nitration	Abs/cm	*ASTM D7624 >20	10.8	10.9	12.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.3	22.3	23.3

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	24.0	21.0	21.5
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.0	6.2	7.2



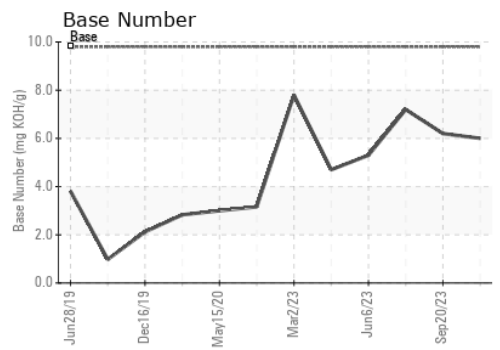
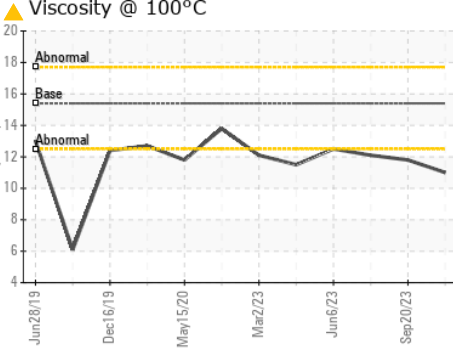
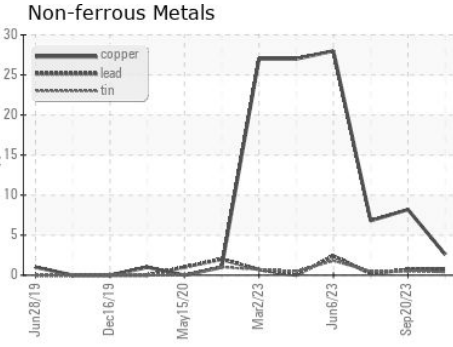
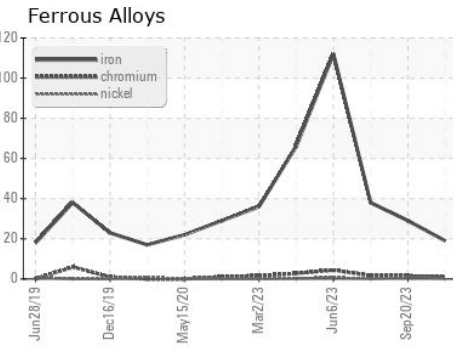
OIL ANALYSIS REPORT



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	▲ 11.0	▲ 11.8	▲ 12.1

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0095163 **Received** : 07 Nov 2023
Lab Number : 06000308 **Diagnosed** : 08 Nov 2023
Unique Number : 10728668 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Robert Hart
 rhart@gflenv.com
 T: (580)461-1509
 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)