



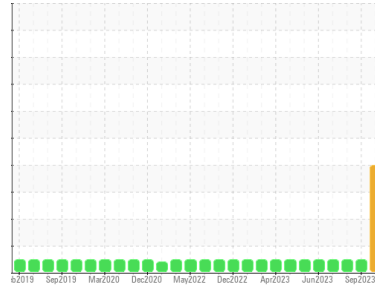
PROBLEM SUMMARY

Sample Rating Trend

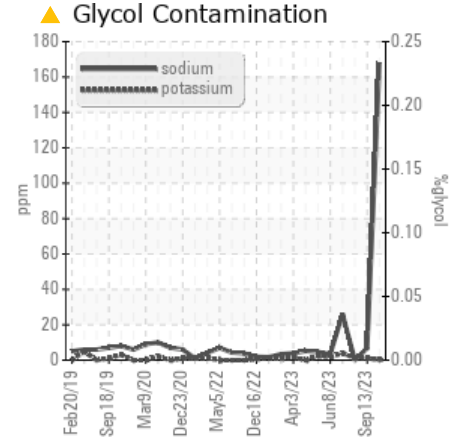
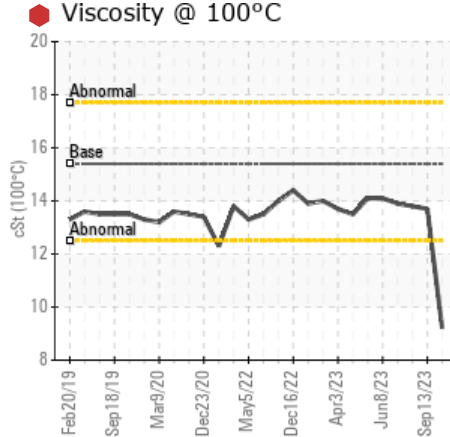
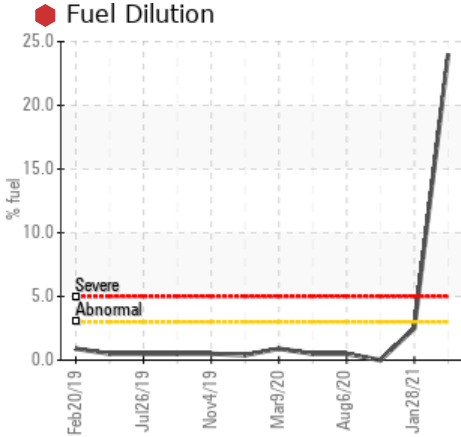
FUEL



Machine Id
426081-402330
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	NORMAL	NORMAL
Sodium	ppm	ASTM D5185m	▲ 168	7	0
Fuel	%	ASTM D3524 >3.0	● 24.0	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445 15.4	● 9.21	13.7	13.8

Customer Id: GFL836
 Sample No.: GFL0095141
 Lab Number: 05979276
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

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 and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

13 Sep 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



10 Aug 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



11 Jul 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report





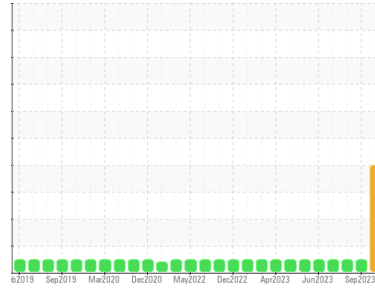
OIL ANALYSIS REPORT

Sample Rating Trend

FUEL



Machine Id
426081-402330
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the fuel injection system. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. There is a high amount of fuel present in the oil.

Fluid Condition

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0095141	GFL0090680	GFL0087162
Sample Date	Client Info		11 Oct 2023	13 Sep 2023	10 Aug 2023
Machine Age	hrs	Client Info	17443	17267	17065
Oil Age	hrs	Client Info	0	600	0
Oil Changed	Client Info		Not Chngd	Changed	Not Chngd
Sample Status			SEVERE	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	8	12	6
Chromium	ppm	ASTM D5185m >20	1	<1	0
Nickel	ppm	ASTM D5185m >5	<1	2	<1
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >20	2	3	<1
Lead	ppm	ASTM D5185m >40	<1	2	1
Copper	ppm	ASTM D5185m >330	4	<1	<1
Tin	ppm	ASTM D5185m >15	<1	<1	0
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	6	5	0
Barium	ppm	ASTM D5185m 0	0	0	2
Molybdenum	ppm	ASTM D5185m 60	54	64	65
Manganese	ppm	ASTM D5185m 0	<1	<1	0
Magnesium	ppm	ASTM D5185m 1010	711	1047	938
Calcium	ppm	ASTM D5185m 1070	775	1158	1140
Phosphorus	ppm	ASTM D5185m 1150	777	1083	1016
Zinc	ppm	ASTM D5185m 1270	897	1391	1247
Sulfur	ppm	ASTM D5185m 2060	2273	3177	3158

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	4	3
Sodium	ppm	ASTM D5185m	▲ 168	7	0
Potassium	ppm	ASTM D5185m >20	<1	1	1
Fuel	%	ASTM D3524 >3.0	● 24.0	<1.0	<1.0
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

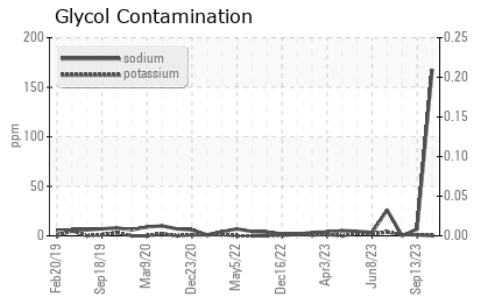
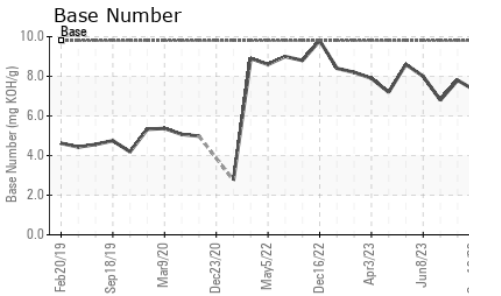
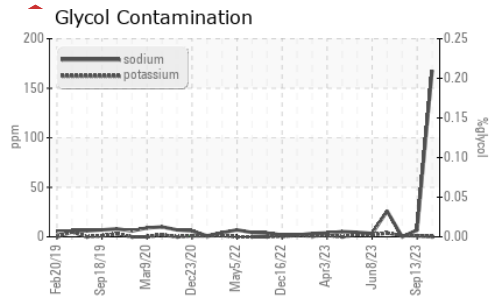
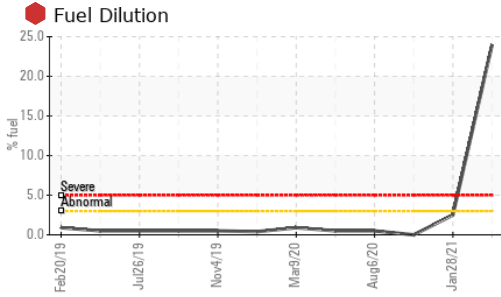
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.4	0.6	0.4
Nitration	Abs/cm	*ASTM D7624 >20	8.0	8.0	7.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.0	20.2	19.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	19.2	16.2	15.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.7	7.3	7.8



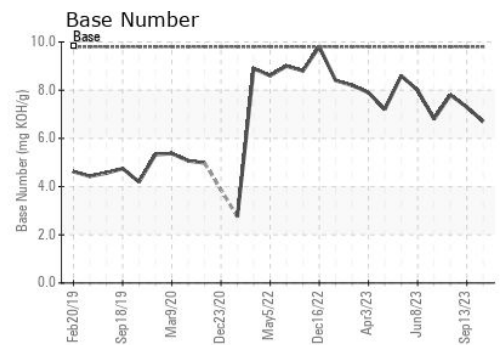
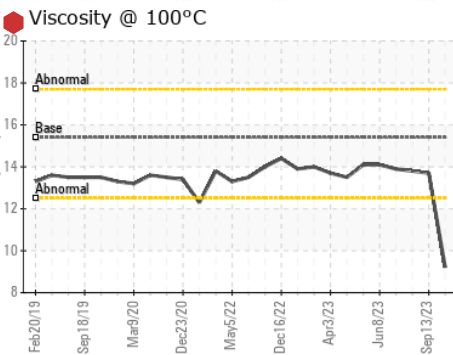
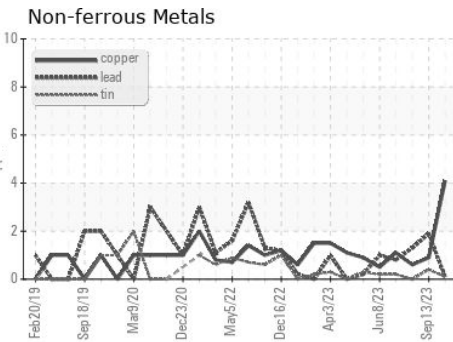
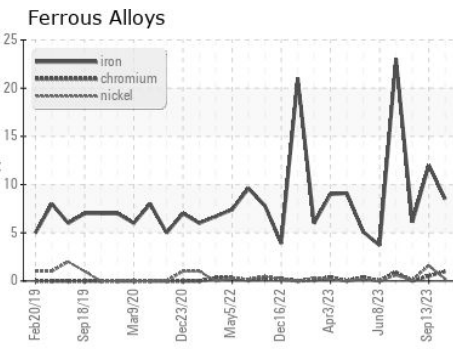
OIL ANALYSIS REPORT



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	9.21	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0095141 **Received** : 16 Oct 2023
Lab Number : 05979276 **Diagnosed** : 23 Oct 2023
Unique Number : 10696571 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, Glycol, 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)