

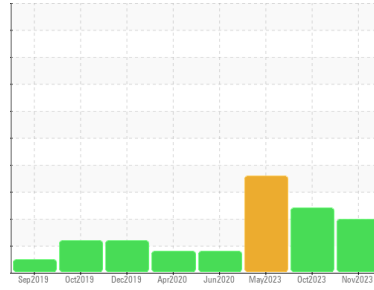


PROBLEM SUMMARY



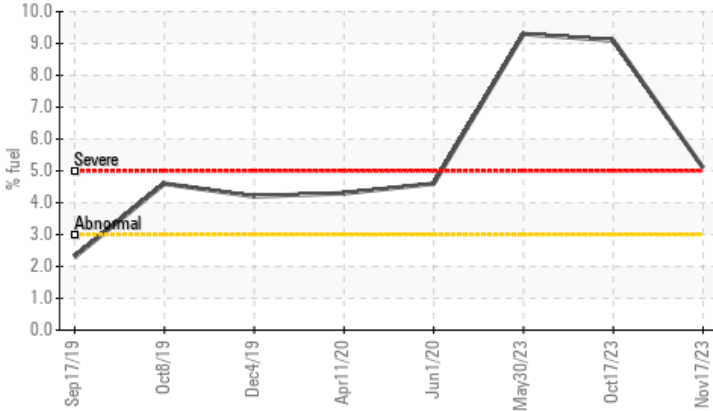
Machine Id
422031-402429
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



COMPONENT CONDITION SUMMARY

Fuel Dilution



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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	SEVERE
Fuel	%	ASTM D3524	>3.0	5.1	9.1	9.3

Customer Id: GFL865
 Sample No.: GFL0100503
 Lab Number: 06014804
 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
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

17 Oct 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. The oil is no longer serviceable due to the presence of contaminants.

[view report](#)



30 May 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. All component wear rates are normal. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

[view report](#)



01 Jun 2020 Diag: Wes Davis

FUEL



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. The fluid was not specified, however, a fluid match indicates that this fluid is SAE 40 Diesel Engine Oil. Please confirm the oil type and grade, and specify the brand of the oil on your next sample. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The oil is no longer serviceable due to the presence of contaminants.

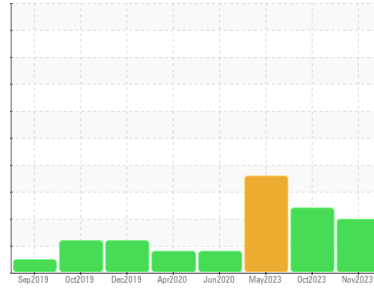
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
422031-402429
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

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

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. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0100503	GFL0093300	GFL0083506
Sample Date	Client Info		17 Nov 2023	17 Oct 2023	30 May 2023
Machine Age	mls	Client Info	556447	552550	3105
Oil Age	mls	Client Info	556447	552550	3105
Oil Changed	Client Info		Changed	Changed	Changed
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 D5185m >120	3	11	24
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >5	0	<1	<1
Titanium	ppm	ASTM D5185m >2	0	<1	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	1	2	2
Lead	ppm	ASTM D5185m >40	0	<1	<1
Copper	ppm	ASTM D5185m >330	2	3	5
Tin	ppm	ASTM D5185m >15	<1	1	<1
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	0	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	54	49	59
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	879	765	812
Calcium	ppm	ASTM D5185m 1070	944	826	975
Phosphorus	ppm	ASTM D5185m 1150	957	681	852
Zinc	ppm	ASTM D5185m 1270	1149	1005	1091
Sulfur	ppm	ASTM D5185m 2060	2975	2362	2939
Lithium	ppm	ASTM D5185m	---	---	---

CONTAMINANTS

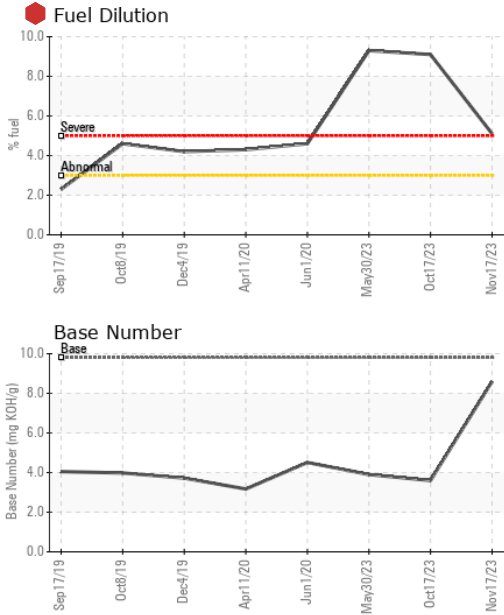
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	3	7	6
Sodium	ppm	ASTM D5185m	3	15	34
Potassium	ppm	ASTM D5185m >20	1	5	7
Fuel	%	ASTM D3524 >3.0	5.1	9.1	9.3

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.1	0.2	0.4
Nitration	Abs/cm	*ASTM D7624 >20	7.3	10.0	12.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.9	20.7	24.7



OIL ANALYSIS REPORT

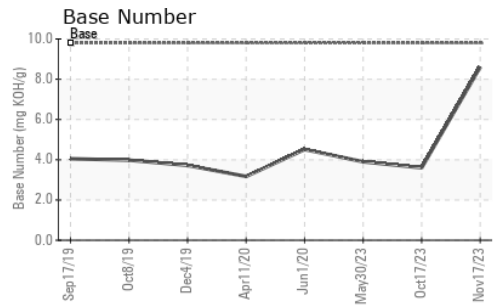
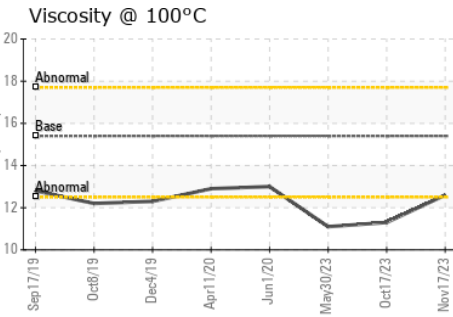
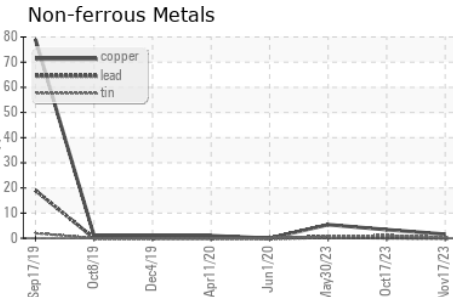
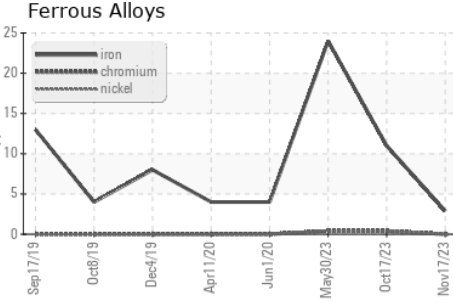
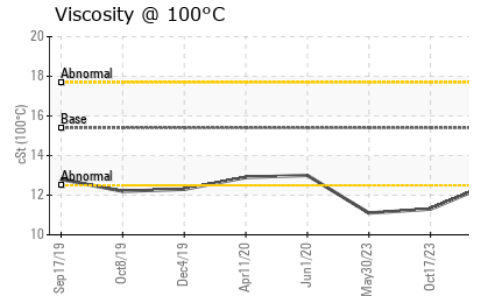


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	*ASTM D7414	>25	14.3	15.8	18.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.6	3.6	▲ 3.9

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	12.6	▲ 11.3	▲ 11.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0100503 **Received** : 22 Nov 2023
Lab Number : 06014804 **Diagnosed** : 27 Nov 2023
Unique Number : 10753948 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 865 - East Mount Hauling
 7213 East Mount Houston Road
 Houston, TX
 US 77050
 Contact: Saul Castillo
 saul.castillo@gflenv.com
 T:
 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)