



PROBLEM SUMMARY

Sample Rating Trend

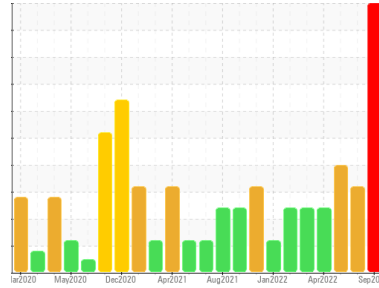
WEAR



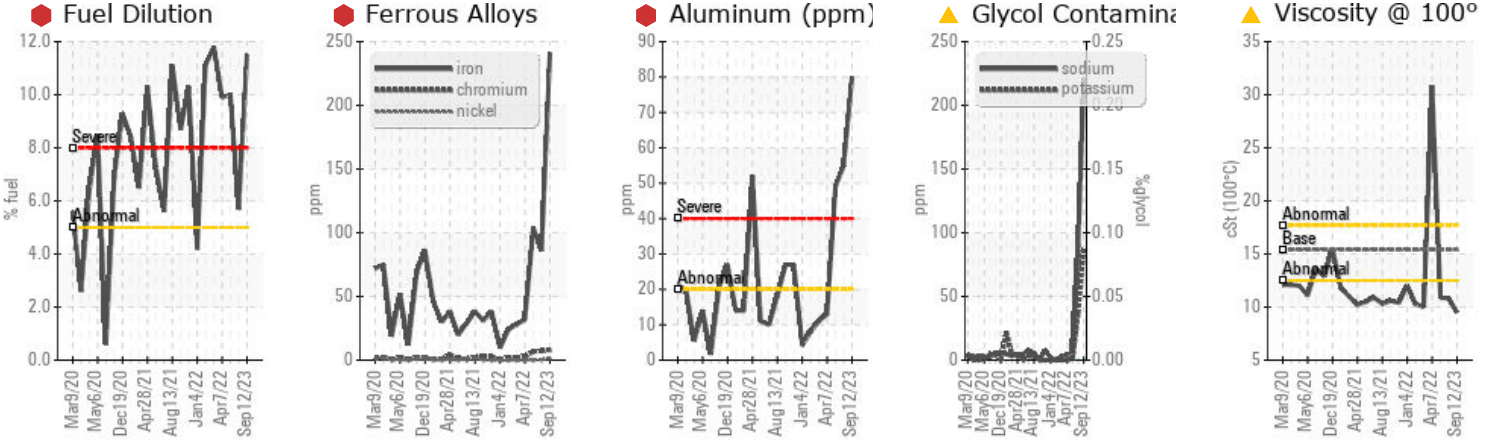
Machine Id
10685

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. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Iron	ppm	ASTM D5185m	>100	241	86	104
Aluminum	ppm	ASTM D5185m	>20	80	55	49
Lead	ppm	ASTM D5185m	>40	57	5	26
Silicon	ppm	ASTM D5185m	>25	34	18	16
Sodium	ppm	ASTM D5185m		221	90	6
Potassium	ppm	ASTM D5185m	>20	88	37	<1
Fuel	%	ASTM D3524	>5	11.5	5.7	10.0
Visc @ 100°C	cSt	ASTM D445	15.4	9.5	10.8	10.9

Customer Id: GFL031
Sample No.: GFL0050897
Lab Number: 05956939
Test Package: FLEET



To manage this report scan the QR code

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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	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
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

20 Jul 2023 Diag: Don Baldrige

GLYCOL



We advise that you check the fuel injection system. We recommend an early resample to monitor this condition. The aluminum level is abnormal. All other component wear rates are normal. Sodium and/or potassium levels are high. There is a moderate amount of fuel present in the oil. Test for glycol is negative. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

[view report](#)



04 Jul 2022 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. Piston, ring and cylinder 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 oil is no longer serviceable due to the presence of contaminants.

[view report](#)



07 Apr 2022 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. Please specify the component make and model with your next sample. 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.

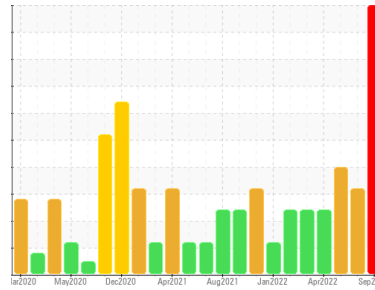
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
10685

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. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

The lead level is abnormal. Piston, ring and cylinder wear is indicated.

Contamination

Sodium and/or potassium levels are high. There is a high amount of fuel present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0050897	GFL0069759	GFL0050818
Sample Date	Client Info		12 Sep 2023	20 Jul 2023	04 Jul 2022
Machine Age	hrs	Client Info	19462	19080	17051
Oil Age	hrs	Client Info	17433	0	573
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			SEVERE	ABNORMAL	SEVERE

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	241	86	104
Chromium	ppm	ASTM D5185m >20	8	7	7
Nickel	ppm	ASTM D5185m >4	1	<1	<1
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	80	55	49
Lead	ppm	ASTM D5185m >40	57	5	26
Copper	ppm	ASTM D5185m >330	13	4	6
Tin	ppm	ASTM D5185m >15	3	1	2
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	9	11	9
Barium	ppm	ASTM D5185m 0	0	<1	0
Molybdenum	ppm	ASTM D5185m 60	78	72	57
Manganese	ppm	ASTM D5185m 0	3	2	2
Magnesium	ppm	ASTM D5185m 1010	868	894	866
Calcium	ppm	ASTM D5185m 1070	1159	1185	1050
Phosphorus	ppm	ASTM D5185m 1150	931	1023	933
Zinc	ppm	ASTM D5185m 1270	1171	1220	1126
Sulfur	ppm	ASTM D5185m 2060	3246	3473	3197

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	34	18	16
Sodium	ppm	ASTM D5185m	221	90	6
Potassium	ppm	ASTM D5185m >20	88	37	<1
Fuel	%	ASTM D3524 >5	11.5	5.7	10.0
Glycol	%	*ASTM D2982	NEG	0.0	NEG

INFRA-RED

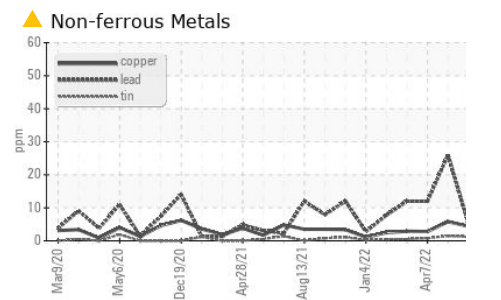
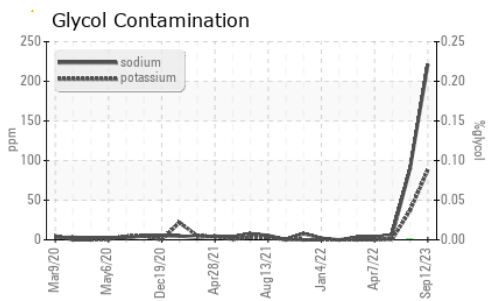
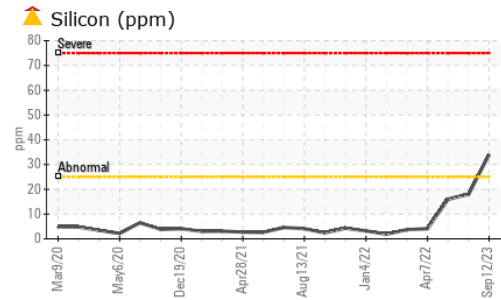
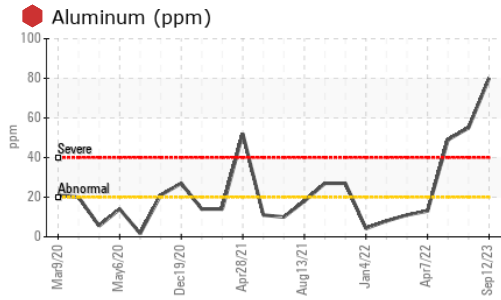
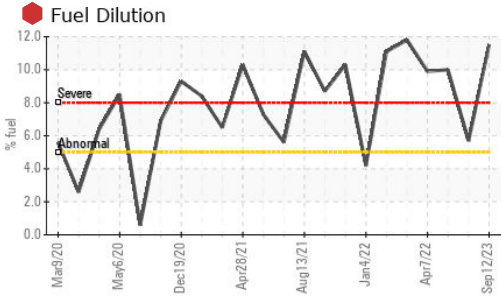
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	2.1	1.1	2.1
Nitration	Abs/cm	*ASTM D7624 >20	11.7	8.5	12.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	24.0	19.8	23.7

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.6	14.0	17.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.4	9.2	9.1



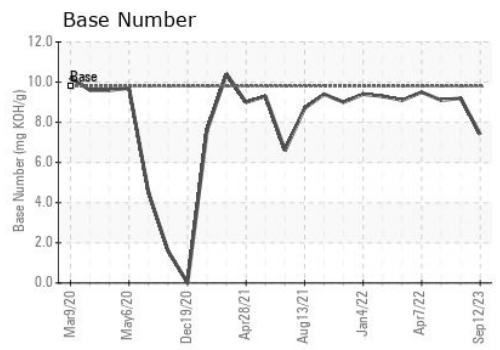
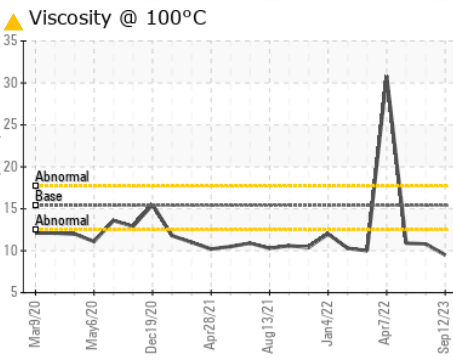
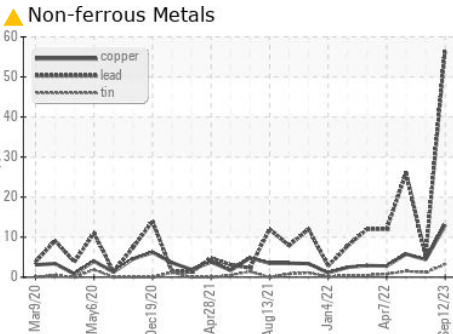
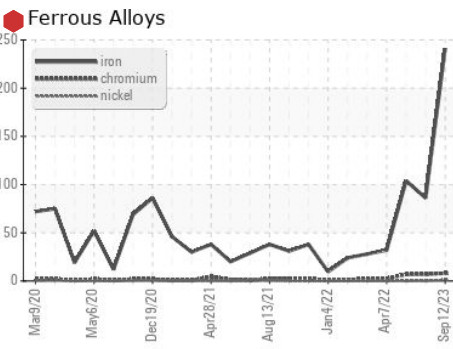
OIL ANALYSIS REPORT



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	▲ 9.5	▲ 10.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0050897 **Received** : 20 Sep 2023
Lab Number : 05956939 **Diagnosed** : 22 Sep 2023
Unique Number : 10658152 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol, PercentFuel)
 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)

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