



PROBLEM SUMMARY

Sample Rating Trend

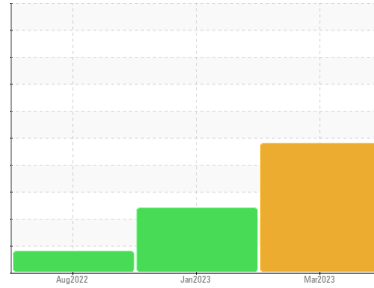
FUEL



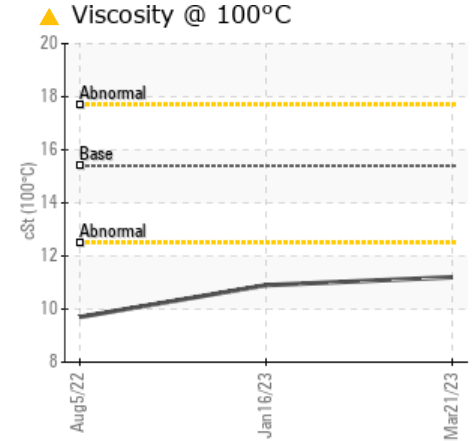
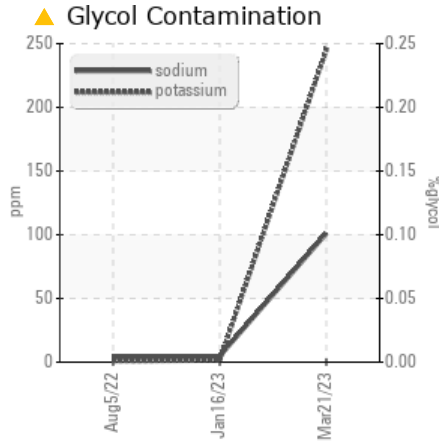
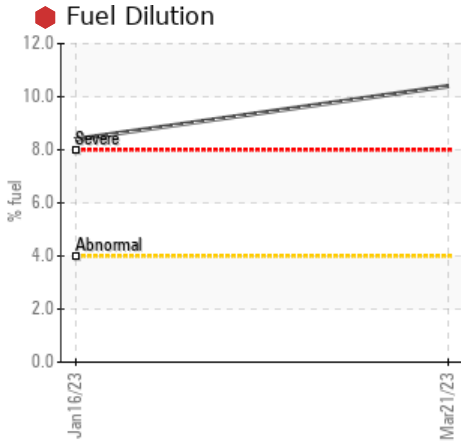
Machine Id
711041

Component
Gasoline 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	SEVERE	ABNORMAL
Sodium	ppm	ASTM D5185m	>400	▲ 101	5	4
Potassium	ppm	ASTM D5185m	>20	▲ 245	1	<1
Fuel	%	ASTM D3524	>4.0	● 10.4	8.4	<1.0
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 11.2	▲ 10.9	9.7

Customer Id: GFL415
 Sample No.: GFL0073884
 Lab Number: 05799489
 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	---	---	?	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

16 Jan 2023 Diag: Jonathan Hester

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 result indicates that there is suitable alkalinity remaining in the oil.

view report



05 Aug 2022 Diag: Don Baldrige

WEAR



Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. The iron level is abnormal. All other metal levels are typical for a new component breaking in. 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 acceptable for the time in service.

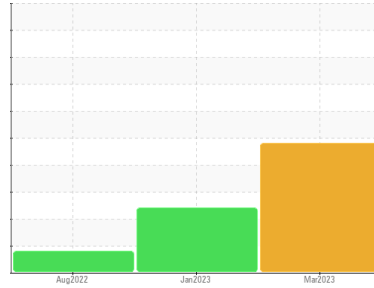
view report





OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
711041

Component
Gasoline 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

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		GFL0073884	GFL0068642	GFL0055133
Sample Date	Client Info		21 Mar 2023	16 Jan 2023	05 Aug 2022
Machine Age	hrs	Client Info	4130	3856	2661
Oil Age	hrs	Client Info	3856	2661	1500
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	SEVERE	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >150	34	66	▲ 359
Chromium	ppm	ASTM D5185m >20	1	2	9
Nickel	ppm	ASTM D5185m >5	<1	<1	2
Titanium	ppm	ASTM D5185m	<1	0	<1
Silver	ppm	ASTM D5185m >2	<1	<1	2
Aluminum	ppm	ASTM D5185m >40	3	<1	4
Lead	ppm	ASTM D5185m >50	0	0	1
Copper	ppm	ASTM D5185m >155	10	1	10
Tin	ppm	ASTM D5185m >10	0	0	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	20	<1	26
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	38	55	64
Manganese	ppm	ASTM D5185m 0	2	<1	4
Magnesium	ppm	ASTM D5185m 1010	735	748	526
Calcium	ppm	ASTM D5185m 1070	1227	984	997
Phosphorus	ppm	ASTM D5185m 1150	935	853	617
Zinc	ppm	ASTM D5185m 1270	1084	1036	751
Sulfur	ppm	ASTM D5185m 2060	3214	2496	2070

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	10	5	10
Sodium	ppm	ASTM D5185m >400	▲ 101	5	4
Potassium	ppm	ASTM D5185m >20	▲ 245	1	<1
Fuel	%	ASTM D3524 >4.0	● 10.4	● 8.4	<1.0
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

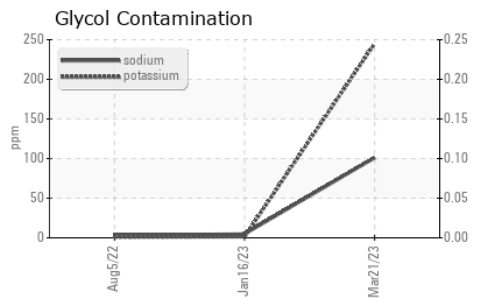
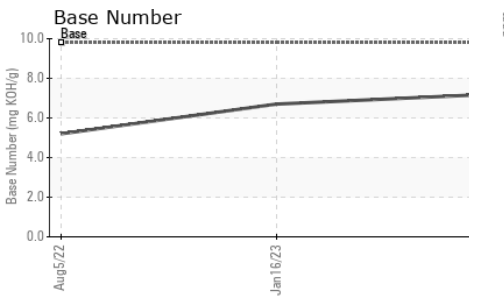
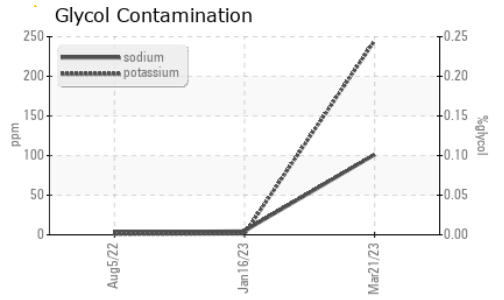
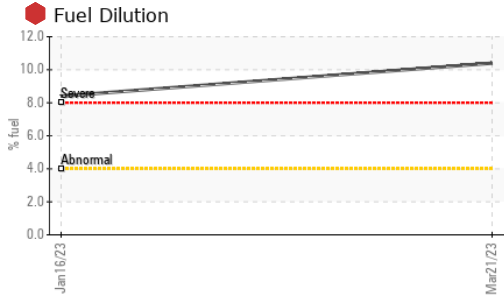
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.5	0.6	1.6
Nitration	Abs/cm	*ASTM D7624 >20	11.2	11.9	21.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.2	21.7	33.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	19.8	20.8	38.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.2	6.7	5.2



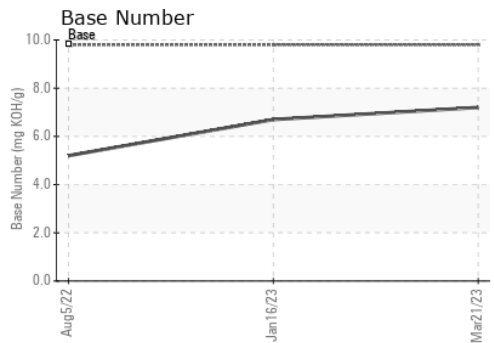
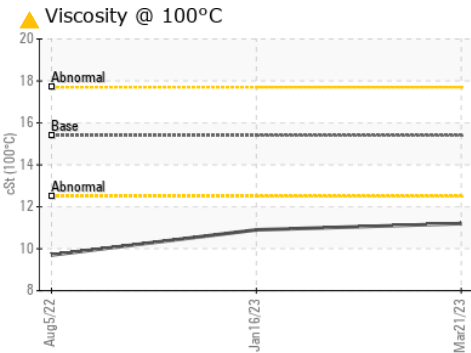
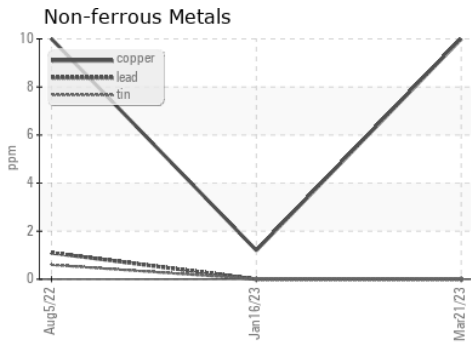
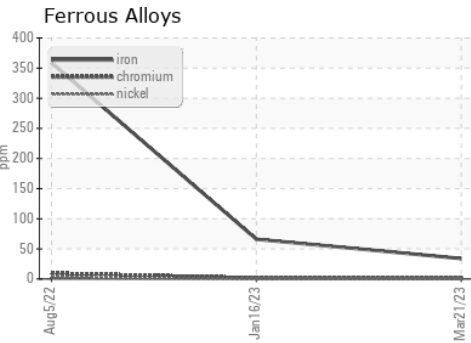
OIL ANALYSIS REPORT



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	▲ 11.2	▲ 10.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0073884 **Received** : 23 Mar 2023
Lab Number : 05799489 **Diagnosed** : 28 Mar 2023
Unique Number : 10389173 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol, PercentFuel)

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
 fwolak@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)