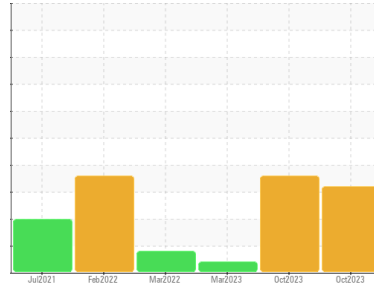




PROBLEM SUMMARY

Sample Rating Trend

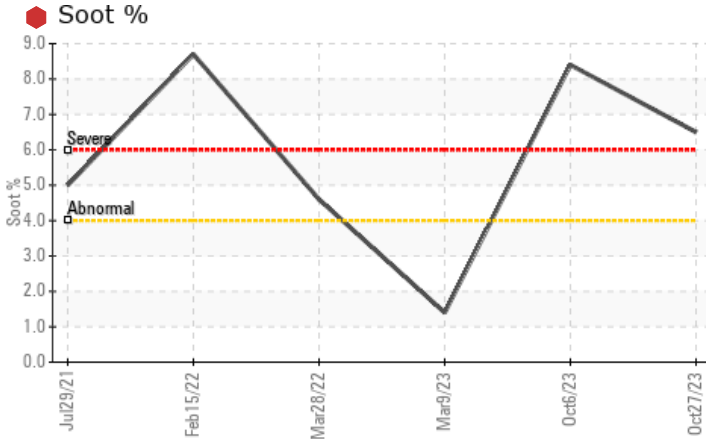


SOOT



Machine Id
727065-361316.1
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. 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. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	SEVERE	ATTENTION
Soot %	%	*ASTM D7844	>4	6.5	8.4	1.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	0.0	0.0	10.0

Customer Id: GFL829
 Sample No.: GFL0065469
 Lab Number: 05995385
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

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.
Alert	---	---	?	NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.
Check Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.

HISTORICAL DIAGNOSIS

06 Oct 2023 Diag: Jonathan Hester

SOOT



We advise that you check for faulty combustion, plugged air filters, or aftercoolers. 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. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The oil viscosity is higher than normal. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

[view report](#)



09 Mar 2023 Diag: Jonathan Hester

VISCOSITY



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

[view report](#)



28 Mar 2022 Diag: Jonathan Hester

SOOT



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is an abnormal amount of solids and carbon present 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.

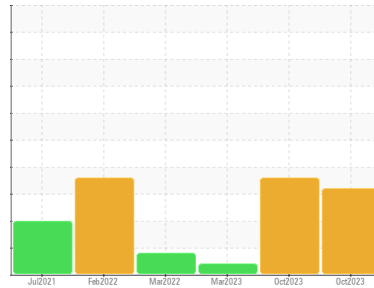
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



SOOT



Machine Id
727065-361316.1
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. 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. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Wear

All component wear rates are normal.

Contamination

There is an abnormal amount of solids and carbon present in the oil.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0065469	GFL0065462	GFL0065557
Sample Date	Client Info		27 Oct 2023	06 Oct 2023	09 Mar 2023
Machine Age	hrs	Client Info	150	2821	0
Oil Age	hrs	Client Info	150	150	0
Oil Changed	Client Info		Not Chngd	Not Chngd	Changed
Sample Status			SEVERE	SEVERE	ATTENTION

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	0.6
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	19	58	7
Chromium	ppm	ASTM D5185m >20	<1	2	<1
Nickel	ppm	ASTM D5185m >5	<1	<1	0
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	4	3	2
Lead	ppm	ASTM D5185m >40	1	6	<1
Copper	ppm	ASTM D5185m >330	9	21	28
Tin	ppm	ASTM D5185m >15	<1	1	<1
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	<1	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	2	137
Barium	ppm	ASTM D5185m 0	<1	0	2
Molybdenum	ppm	ASTM D5185m 60	58	51	61
Manganese	ppm	ASTM D5185m 0	0	1	<1
Magnesium	ppm	ASTM D5185m 1010	905	861	408
Calcium	ppm	ASTM D5185m 1070	993	930	1654
Phosphorus	ppm	ASTM D5185m 1150	993	835	1017
Zinc	ppm	ASTM D5185m 1270	1177	1082	1183
Sulfur	ppm	ASTM D5185m 2060	2975	2295	3321

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	8	6
Sodium	ppm	ASTM D5185m	3	2	3
Potassium	ppm	ASTM D5185m >20	2	1	1

INFRA-RED

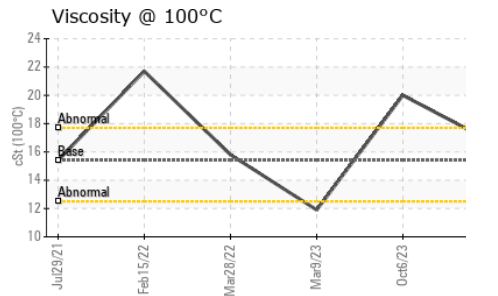
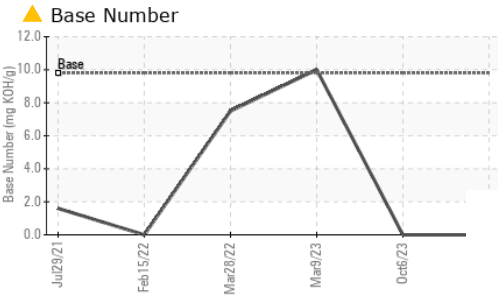
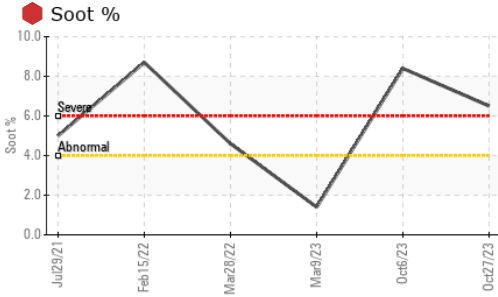
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	6.5	8.4	1.4
Nitration	Abs/cm	*ASTM D7624 >20	12.1	29.5	5.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	31.5	61.6	20.6

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	19.6	87.7	13.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	0.0	0.0	10.0



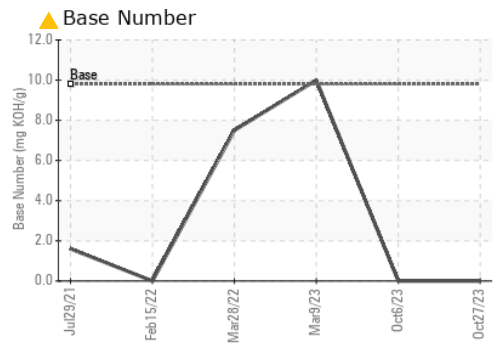
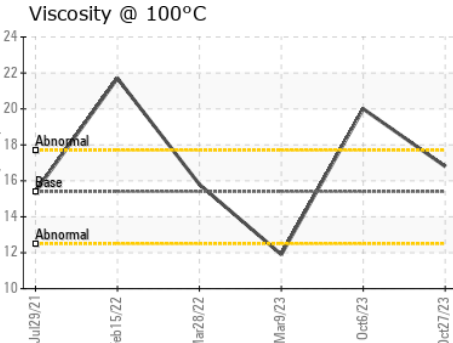
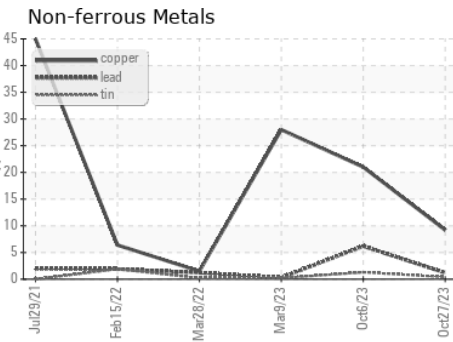
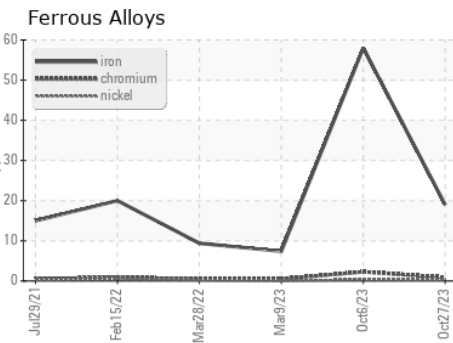
OIL ANALYSIS REPORT



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	16.8	▲ 20.0	▲ 11.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0065469
 Lab Number : 05995385
 Unique Number : 10723745
 Test Package : FLEET

GFL Environmental - 829 - Wilco Hauling
 5054 Highway HH
 Hartville, MO
 US 65667
 Contact: James Jones
 james.jones@gflenv.com
 T: (417)349-5006
 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)