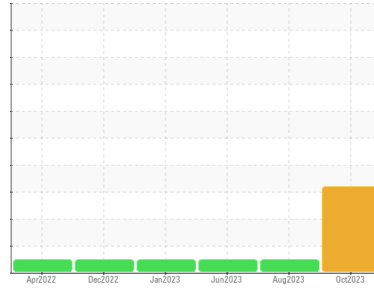




PROBLEM SUMMARY

Sample Rating Trend

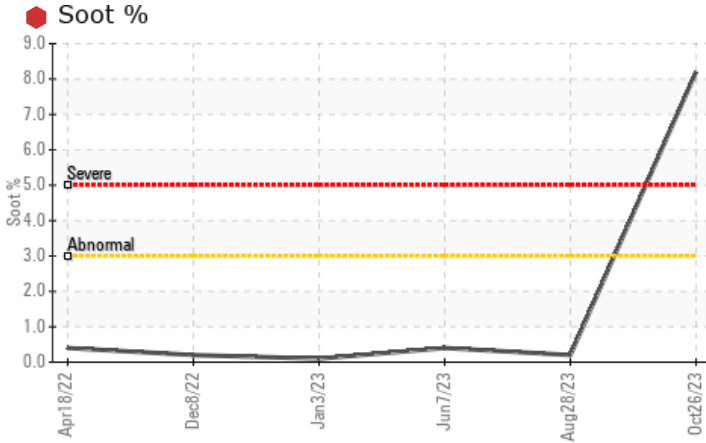


SOOT



Machine Id
1117M
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	NORMAL	NORMAL
Soot %	%	*ASTM D7844	>3	8.2	0.2	0.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	0.0	8.6	7.5

Customer Id: GFL455
Sample No.: GFL0092776
Lab Number: 05997662
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.
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

28 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



07 Jun 2023 Diag: Wes Davis

NORMAL



No corrective action is recommended at this time. 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report



03 Jan 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. 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.

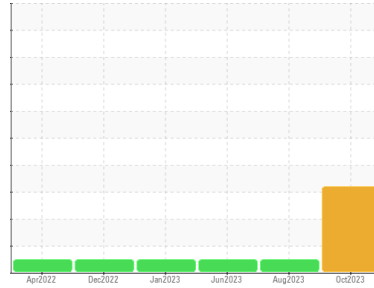
view report





OIL ANALYSIS REPORT

Sample Rating Trend



SOOT



Machine Id
1117M
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

Fuel content negligible. 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		GFL0092776	GFL0080757	GFL0080797
Sample Date	Client Info		26 Oct 2023	28 Aug 2023	07 Jun 2023
Machine Age	hrs	Client Info	11721	10764	10764
Oil Age	hrs	Client Info	11721	10764	0
Oil Changed	Client Info		N/A	Not Changd	Changed
Sample Status			SEVERE	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	5	6	17
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	<1	<1	0
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	<1	0	0
Aluminum	ppm	ASTM D5185m >30	1	4	<1
Lead	ppm	ASTM D5185m >30	0	0	<1
Copper	ppm	ASTM D5185m >30	3	2	1
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	3	4	6
Barium	ppm	ASTM D5185m 0	4	0	0
Molybdenum	ppm	ASTM D5185m 60	75	64	63
Manganese	ppm	ASTM D5185m 0	0	<1	<1
Magnesium	ppm	ASTM D5185m 1010	1060	1074	997
Calcium	ppm	ASTM D5185m 1070	1250	1148	1220
Phosphorus	ppm	ASTM D5185m 1150	1107	1071	1072
Zinc	ppm	ASTM D5185m 1270	1372	1313	1383
Sulfur	ppm	ASTM D5185m 2060	3528	3784	4024

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	6	5	4
Sodium	ppm	ASTM D5185m	0	1	1
Potassium	ppm	ASTM D5185m >20	2	<1	2
Fuel	%	ASTM D3524 >3.0	0.3	<1.0	0.2

INFRA-RED

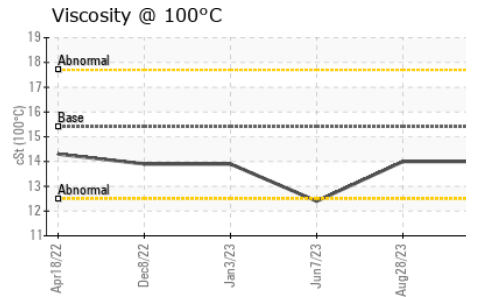
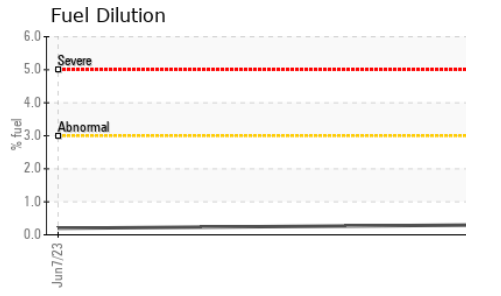
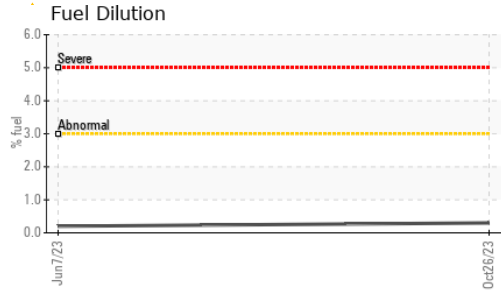
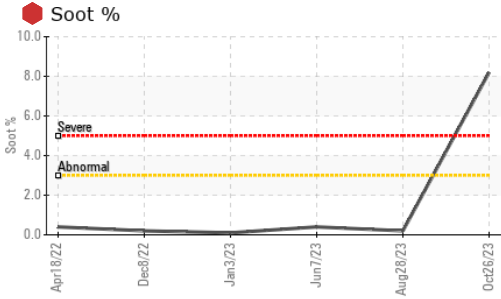
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	8.2	0.2	0.4
Nitration	Abs/cm	*ASTM D7624 >20	48.0	6.0	6.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	71.1	17.2	19.7

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	119.8	12.6	15.6
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	0.0	8.6	7.5



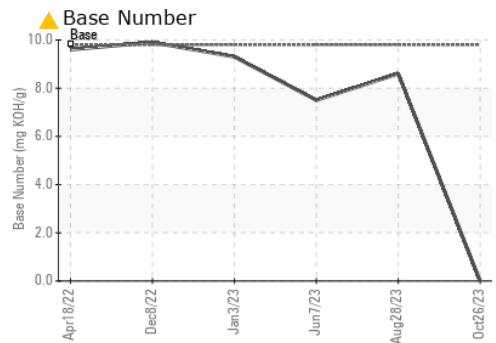
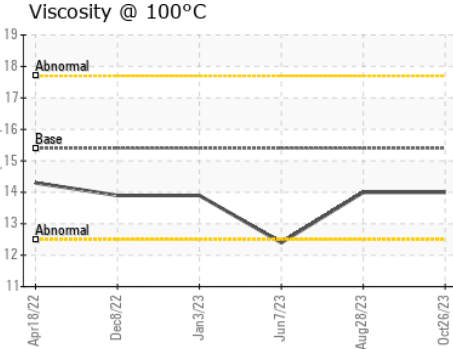
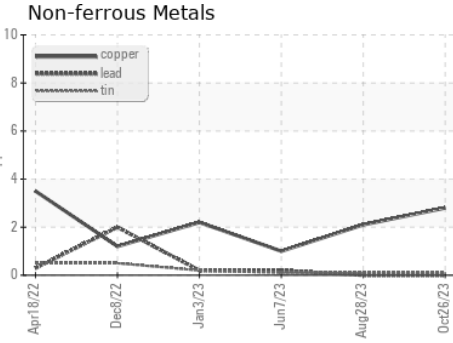
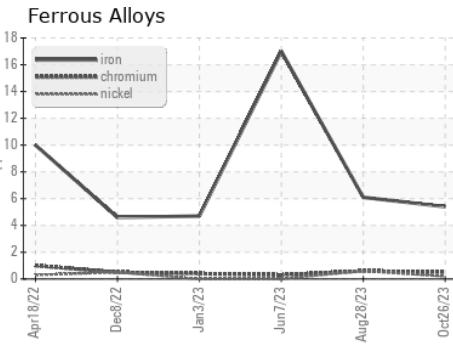
OIL ANALYSIS REPORT



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	14.0	12.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0092776 **Received** : 03 Nov 2023
Lab Number : 05997662 **Diagnosed** : 08 Nov 2023
Unique Number : 10726022 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FUELDILUTION, PercentFuel)

GFL Environmental - 455 - Flint
 2051 W. Bristol Rd
 Flint Township, MI
 US 48507
 Contact: MARK WOMBLE
 mwomble@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)