



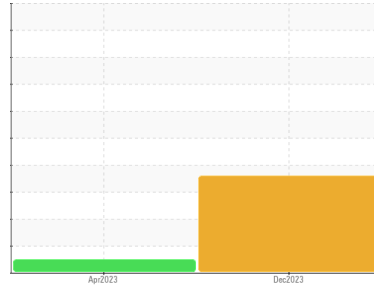
PROBLEM SUMMARY

Sample Rating Trend

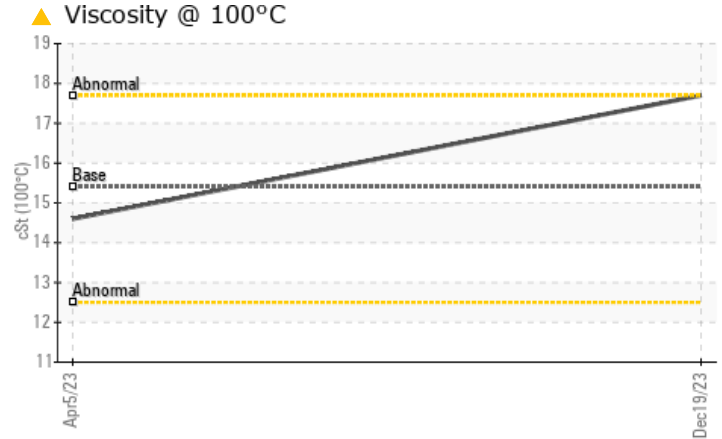
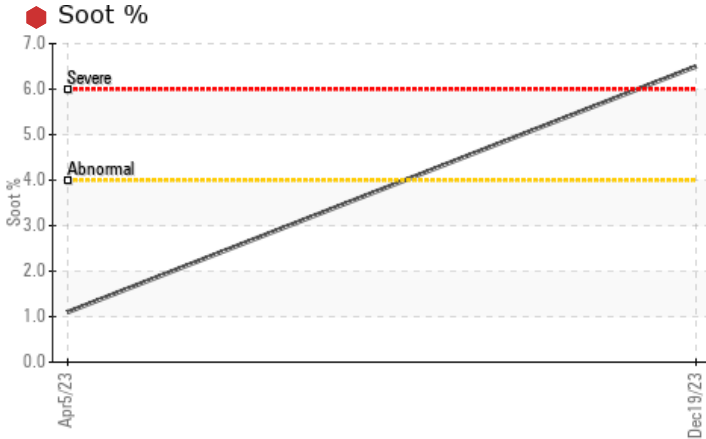
SOOT



Machine Id
927027
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. The oil change at the time of sampling has been noted. We recommend you service the filters on this component. 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	---
Soot %	%	*ASTM D7844	>4	6.5	1.1	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	0.0	8.2	---
Visc @ 100°C	cSt	ASTM D445	15.4	17.7	14.6	---

Customer Id: GFL932
 Sample No.: GFL0080363
 Lab Number: 06068239
 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 Filter	---	---	?	We recommend you service the filters on this component.
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

05 Apr 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. 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 suitable for further service.

view report





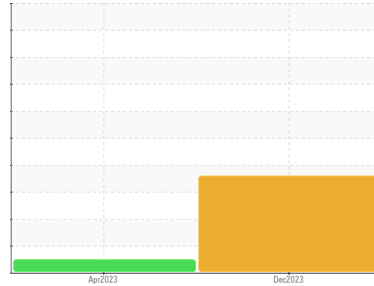
OIL ANALYSIS REPORT

Sample Rating Trend

SOOT



Machine Id
927027
 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. The oil change at the time of sampling has been noted. We recommend you service the filters on this component. 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 oil viscosity is higher than normal. The BN level is low.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0080363	GFL0078795	---
Sample Date	Client Info	19 Dec 2023	05 Apr 2023	---
Machine Age	hrs	5266	3757	---
Oil Age	hrs	1509	0	---
Oil Changed	Client Info	Changed	Changed	---
Sample Status		SEVERE	NORMAL	---

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	NEG	NEG	---
Glycol	WC Method	NEG	NEG	---

WEAR METALS

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

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<1	<1	---
Barium	ppm ASTM D5185m 0	0	1	---
Molybdenum	ppm ASTM D5185m 60	63	58	---
Manganese	ppm ASTM D5185m 0	<1	<1	---
Magnesium	ppm ASTM D5185m 1010	1056	929	---
Calcium	ppm ASTM D5185m 1070	1125	999	---
Phosphorus	ppm ASTM D5185m 1150	1121	971	---
Zinc	ppm ASTM D5185m 1270	1338	1194	---
Sulfur	ppm ASTM D5185m 2060	3285	3243	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	5	2	---
Sodium	ppm ASTM D5185m	3	<1	---
Potassium	ppm ASTM D5185m >20	0	0	---
Fuel	% ASTM D3524 >3.0	<1.0	<1.0	---

INFRA-RED

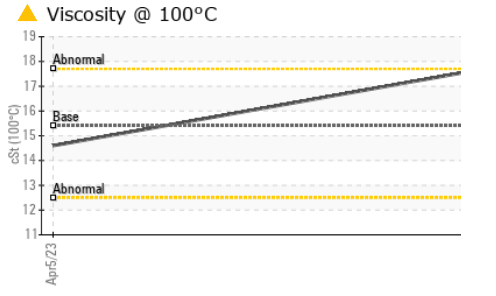
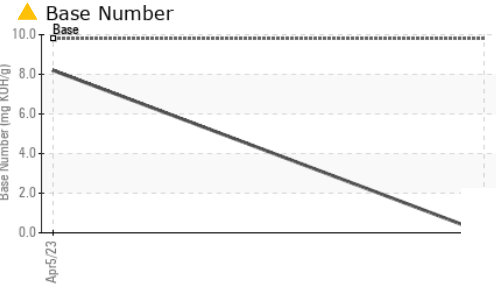
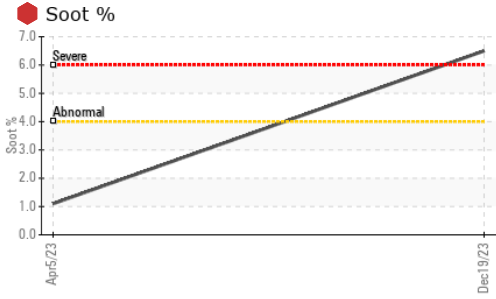
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	6.5	1.1	---
Nitration	Abs/cm *ASTM D7624 >20	14.3	5.1	---
Sulfation	Abs/.1mm *ASTM D7415 >30	31.1	17.4	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	20.8	12.3	---
Base Number (BN)	mg KOH/g ASTM D2896 9.8	0.0	8.2	---



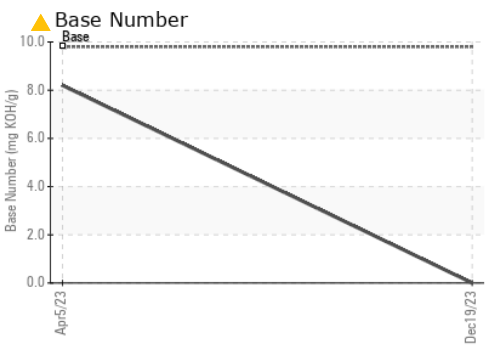
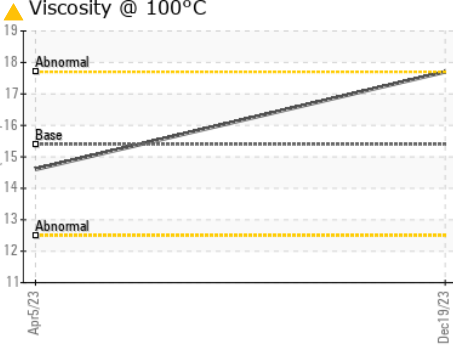
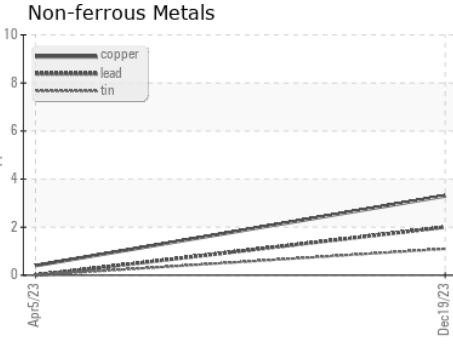
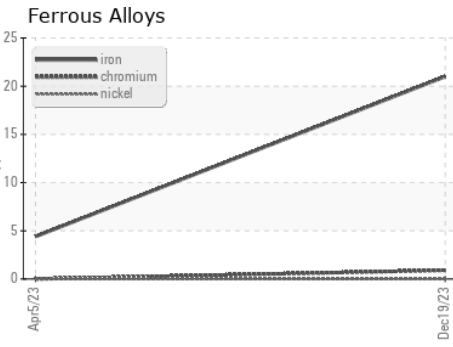
OIL ANALYSIS REPORT



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	▲ 17.7	14.6	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0080363 **Received** : 23 Jan 2024
Lab Number : **06068239** **Diagnosed** : 25 Jan 2024
Unique Number : 10844916 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution)

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 W144 S6400 College Ct.
 Muskego, WI
 US 53150
 Contact: Brian Schlomann
 brian.schlomann@gflenv.com
 T: (262)510-4586
 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)