



PROBLEM SUMMARY

Sample Rating Trend

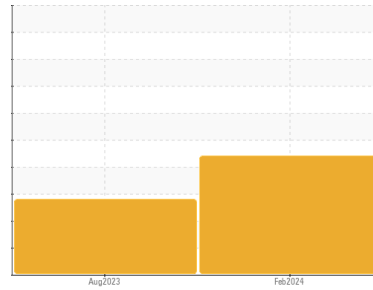
SOOT



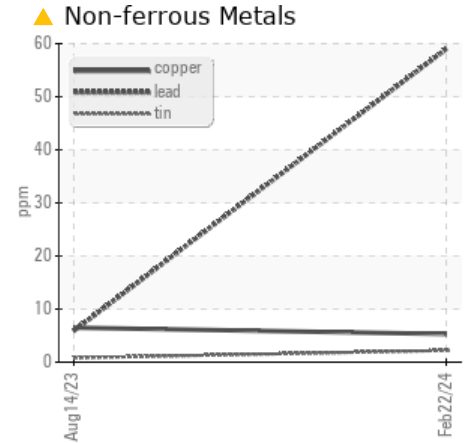
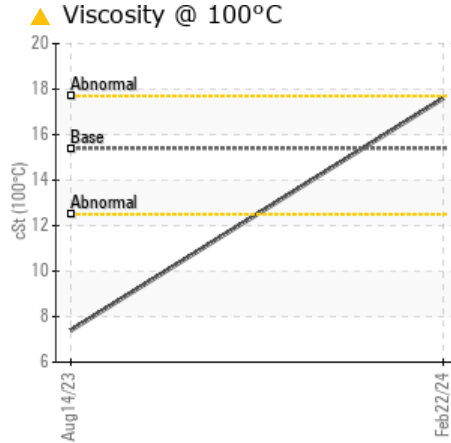
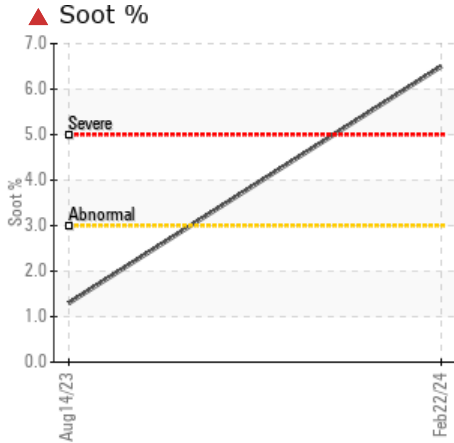
Machine Id
226023

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	ATTENTION	---
Lead	▲ 59	6	---
Soot %	▲ 6.5	1.3	---
Base Number (BN)	▲ 0.0	4.8	---
Visc @ 100°C	▲ 17.6	7.4	---

Customer Id: GFL924
 Sample No.: GFL0113032
 Lab Number: 06111897
 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

14 Aug 2023 Diag: Jonathan Hester

FUEL



No corrective action is recommended at this time. We recommend an early resample to monitor this condition. All component wear rates are normal. Light fuel dilution occurring. The oil viscosity is lower than normal. Additive levels indicate the addition of a different brand, or type of oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

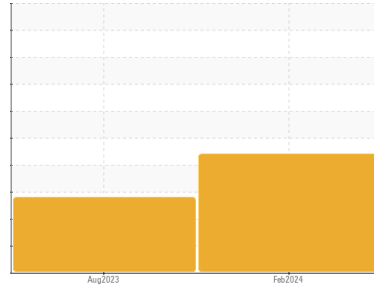
view report





OIL ANALYSIS REPORT

Sample Rating Trend



SOOT



Machine Id
226023

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

The lead level is abnormal.

▲ 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. The oil is no longer serviceable.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0113032	GFL0059621	---
Sample Date	Client Info	22 Feb 2024	14 Aug 2023	---
Machine Age	hrs	7328	0	---
Oil Age	hrs	0	0	---
Oil Changed	Client Info	N/A	N/A	---
Sample Status		SEVERE	ATTENTION	---

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 >100	62	66	---
Chromium	ppm ASTM D5185m >20	2	3	---
Nickel	ppm ASTM D5185m >4	<1	0	---
Titanium	ppm ASTM D5185m	0	0	---
Silver	ppm ASTM D5185m >3	0	0	---
Aluminum	ppm ASTM D5185m >20	9	13	---
Lead	ppm ASTM D5185m >40	59	6	---
Copper	ppm ASTM D5185m >330	5	6	---
Tin	ppm ASTM D5185m >15	2	<1	---
Vanadium	ppm ASTM D5185m	<1	0	---
Cadmium	ppm ASTM D5185m	0	0	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	10	26	---
Barium	ppm ASTM D5185m 0	0	0	---
Molybdenum	ppm ASTM D5185m 60	62	24	---
Manganese	ppm ASTM D5185m 0	2	1	---
Magnesium	ppm ASTM D5185m 1010	696	341	---
Calcium	ppm ASTM D5185m 1070	1689	485	---
Phosphorus	ppm ASTM D5185m 1150	813	544	---
Zinc	ppm ASTM D5185m 1270	1026	600	---
Sulfur	ppm ASTM D5185m 2060	2317	2005	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	10	11	---
Sodium	ppm ASTM D5185m	9	27	---
Potassium	ppm ASTM D5185m >20	1	6	---
Fuel	% ASTM D3524 >5	<1.0	3.7	---

INFRA-RED

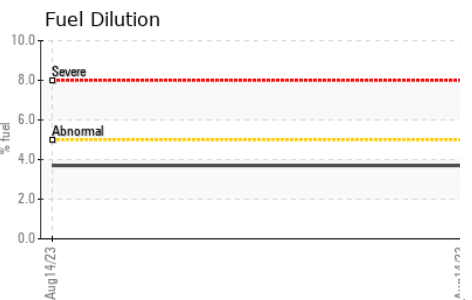
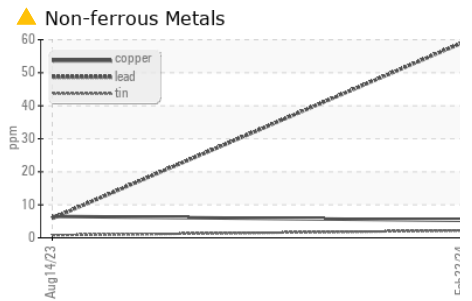
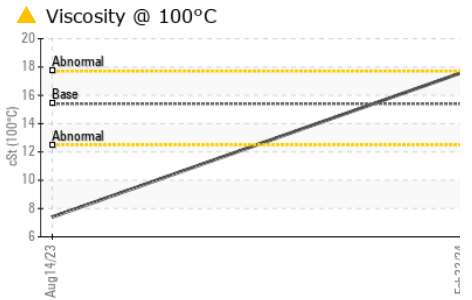
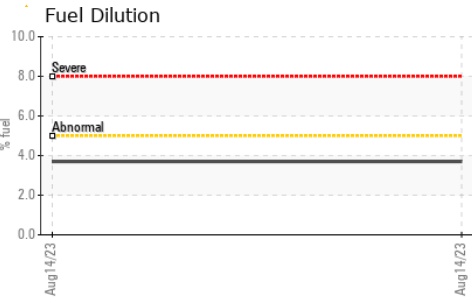
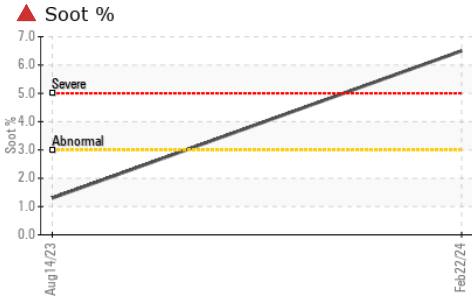
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	6.5	1.3	---
Nitration	Abs/cm *ASTM D7624 >20	31.2	9.7	---
Sulfation	Abs/.1mm *ASTM D7415 >30	49.0	29.1	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	56.7	30.6	---
Base Number (BN)	mg KOH/g ASTM D2896 9.8	0.0	4.8	---



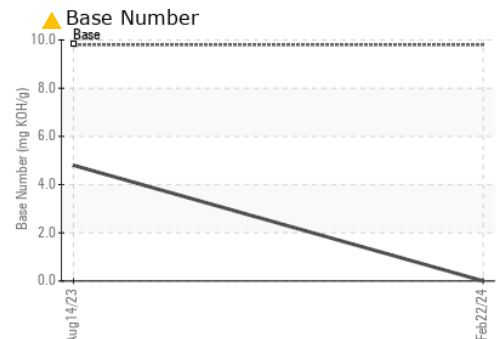
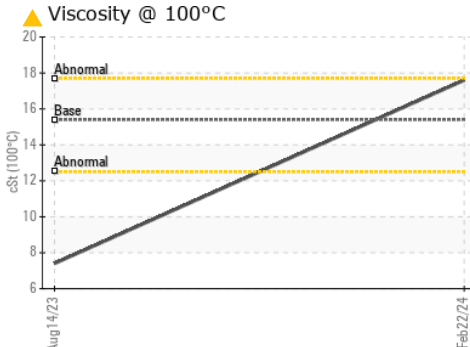
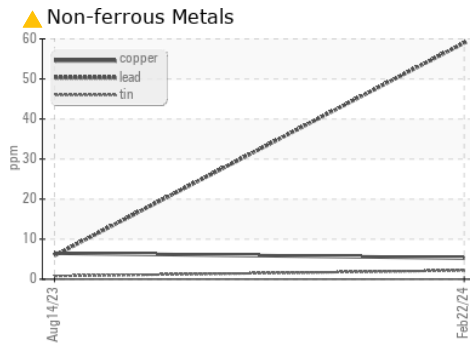
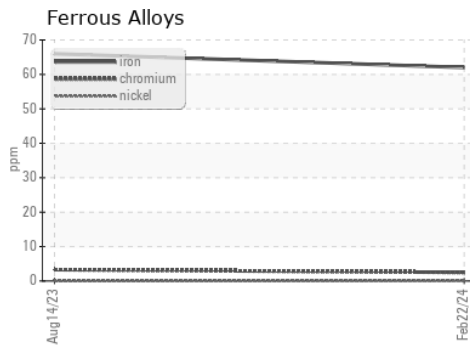
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 17.6	● 7.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0113032 **Received** : 07 Mar 2024
Lab Number : 06111897 **Tested** : 08 Mar 2024
Unique Number : 10915394 **Diagnosed** : 10 Mar 2024 - Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution)

GFL Environmental - 924 - Madison HC
 300 Raemisch Road
 Waunakee, WI
 US 53597
 Contact: Ben Briggs
 ben.briggs@gflenv.com
 T: (608)770-9196
 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)