

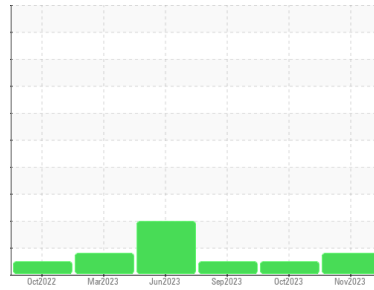


PROBLEM SUMMARY



Machine Id
423031-402164
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

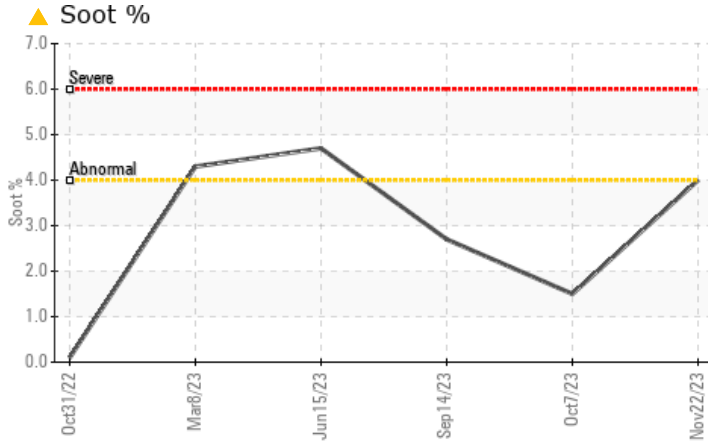
Sample Rating Trend



SOOT



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	NORMAL
Soot %	%	*ASTM D7844	>4	▲ 4	1.5	2.7

Customer Id: GFL891
 Sample No.: GFL0093556
 Lab Number: 06016126
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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 from the component if this has not already been done.

HISTORICAL DIAGNOSIS

07 Oct 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



14 Sep 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



15 Jun 2023 Diag: Don Baldrige

DEGRADATION



We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. 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 BN level is low.

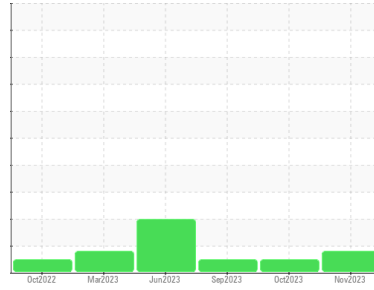
view report





OIL ANALYSIS REPORT

Sample Rating Trend



SOOT



Machine Id
423031-402164
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We recommend that you drain the oil from the component if this has not already been done.

Wear

All component wear rates are normal.

Contamination

Light concentration of carbon/soot present in the oil.

Fluid Condition

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	GFL0093556	GFL0077239	GFL0093525
Sample Date	Client Info	22 Nov 2023	07 Oct 2023	14 Sep 2023
Machine Age	hrs	44646	44329	44158
Oil Age	hrs	458	141	272
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		ABNORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	<1.0
Water	WC Method >0.2	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	32	17	31
Chromium	ppm ASTM D5185m >20	1	<1	2
Nickel	ppm ASTM D5185m >5	0	0	<1
Titanium	ppm ASTM D5185m >2	<1	<1	2
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	2	0	2
Lead	ppm ASTM D5185m >40	2	1	3
Copper	ppm ASTM D5185m >330	2	<1	1
Tin	ppm ASTM D5185m >15	0	<1	2
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	0	<1	2
Barium	ppm ASTM D5185m 0	0	<1	44
Molybdenum	ppm ASTM D5185m 60	58	62	56
Manganese	ppm ASTM D5185m 0	<1	<1	1
Magnesium	ppm ASTM D5185m 1010	985	885	883
Calcium	ppm ASTM D5185m 1070	1054	1026	967
Phosphorus	ppm ASTM D5185m 1150	925	1001	913
Zinc	ppm ASTM D5185m 1270	1286	1207	1133
Sulfur	ppm ASTM D5185m 2060	2980	3279	3144

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	8	9	9
Sodium	ppm ASTM D5185m	<1	0	2
Potassium	ppm ASTM D5185m >20	1	2	3

INFRA-RED

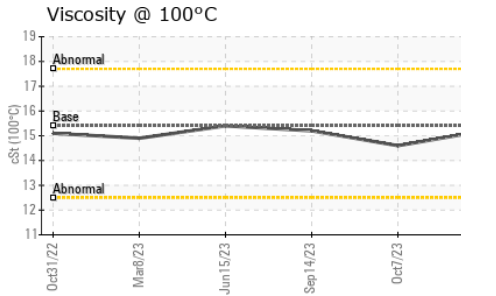
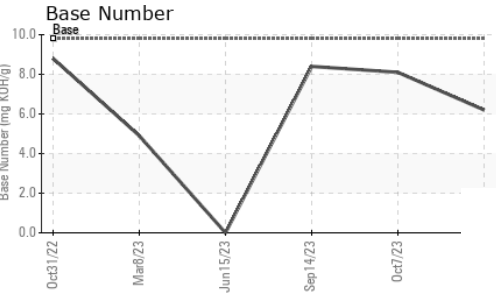
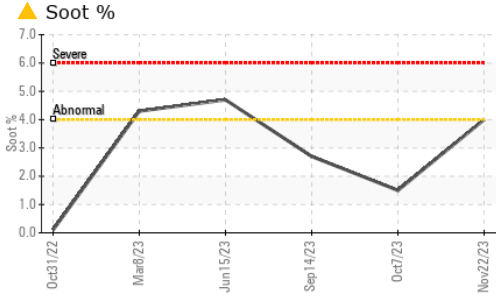
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	▲ 4	1.5	2.7
Nitration	Abs/cm *ASTM D7624 >20	10.1	5.8	8.7
Sulfation	Abs/.1mm *ASTM D7415 >30	26.0	18.9	21.9

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.7	12.2	12.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	6.2	8.1	8.4



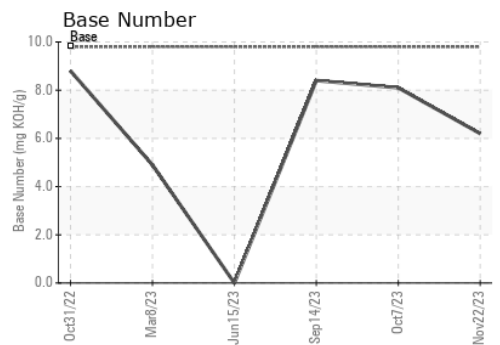
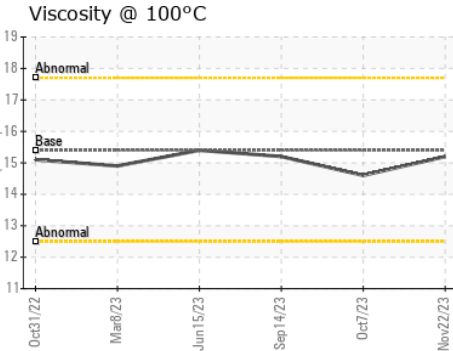
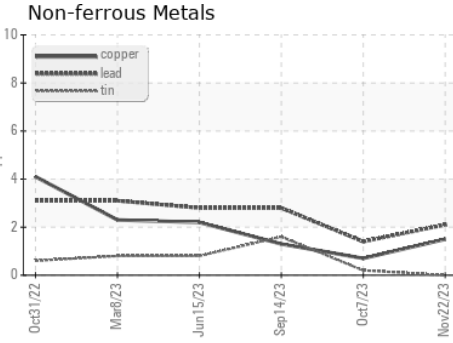
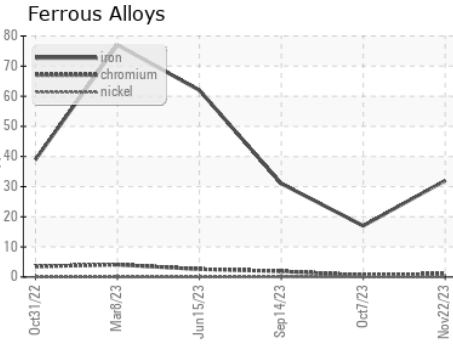
OIL ANALYSIS REPORT



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	15.2	14.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0093556 Received : 24 Nov 2023
 Lab Number : 06016126 Diagnosed : 27 Nov 2023
 Unique Number : 10755270 Diagnostician : Wes Davis
 Test Package : FLEET

GFL Environmental - 891 - Oklahoma City Hauling
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 Oklahoma City, OK
 US 73128
 Contact: Andy Smith
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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)