

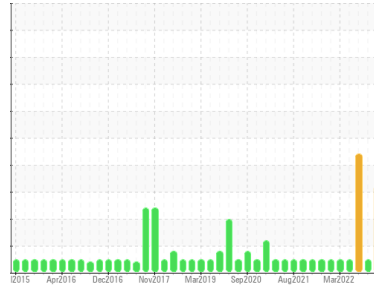


PROBLEM SUMMARY



Area
(YA122669) 020
 Machine Id
2581
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (52 QTS)

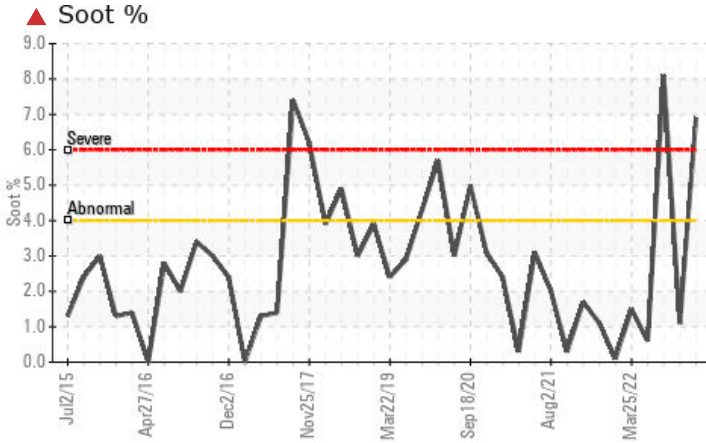
Sample Rating Trend



SOOT



COMPONENT CONDITION SUMMARY



RECOMMENDATION

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. 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	SEVERE
Soot %	%	*ASTM D7844	>4	▲ 6.9	1.1	▲ 8.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ 0.0	9.4	▲ 0.0

Customer Id: GFL020
 Sample No.: GFL0103793
 Lab Number: 06102768
 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	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
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

30 Nov 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



22 Jun 2023 Diag: Don Baldrige

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. Cylinder, crank, or cam shaft wear is indicated. 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



06 Apr 2022 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





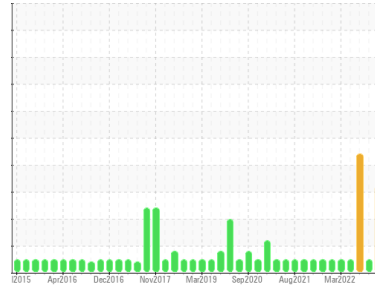
OIL ANALYSIS REPORT

Sample Rating Trend

SOOT



Area
(YA122669) 020
Machine Id
2581
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (52 QTS)



DIAGNOSIS

▲ Recommendation

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. 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	GFL0103793	GFL0103803	GFL0076982
Sample Date	Client Info	23 Feb 2024	30 Nov 2023	22 Jun 2023
Machine Age	hrs Client Info	29328	28763	0
Oil Age	hrs Client Info	726	726	600
Oil Changed	Client Info	Changed	Changed	Not Changd
Sample Status		SEVERE	NORMAL	SEVERE

CONTAMINATION

method	limit/base	current	history1	history2
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	60	18	▲ 102
Chromium ppm ASTM D5185m	>20	3	<1	3
Nickel ppm ASTM D5185m	>5	1	<1	<1
Titanium ppm ASTM D5185m	>2	<1	0	<1
Silver ppm ASTM D5185m	>2	0	0	0
Aluminum ppm ASTM D5185m	>20	3	2	10
Lead ppm ASTM D5185m	>40	4	0	4
Copper ppm ASTM D5185m	>330	4	8	46
Tin ppm ASTM D5185m	>15	<1	0	1
Vanadium ppm ASTM D5185m		0	0	0
Cadmium ppm ASTM D5185m		<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185m	0	5	6	7
Barium ppm ASTM D5185m	0	0	2	0
Molybdenum ppm ASTM D5185m	60	60	55	62
Manganese ppm ASTM D5185m	0	<1	0	1
Magnesium ppm ASTM D5185m	1010	942	821	992
Calcium ppm ASTM D5185m	1070	1100	1028	1114
Phosphorus ppm ASTM D5185m	1150	1011	884	959
Zinc ppm ASTM D5185m	1270	1242	1094	1276
Sulfur ppm ASTM D5185m	2060	2953	4519	2973

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m	>25	8	4	21
Sodium ppm ASTM D5185m		7	4	21
Potassium ppm ASTM D5185m	>20	1	<1	2
Fuel % ASTM D3524	>3.0	<1.0	<1.0	<1.0

INFRA-RED

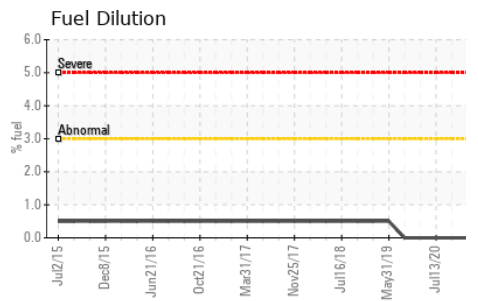
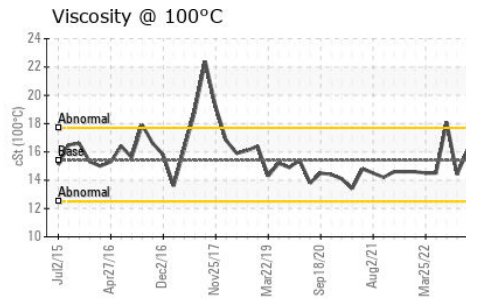
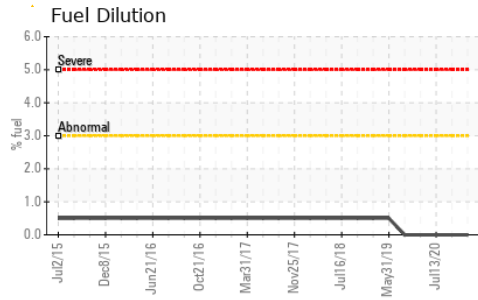
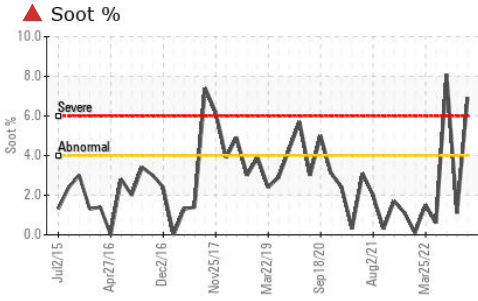
method	limit/base	current	history1	history2
Soot % *ASTM D7844	>4	▲ 6.9	1.1	▲ 8.1
Nitration Abs/cm *ASTM D7624	>20	17.4	5.6	35.1
Sulfation Abs/.1mm *ASTM D7415	>30	34.5	19.3	58.1

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation Abs/.1mm *ASTM D7414	>25	20.3	12.9	74.8
Base Number (BN) mg KOH/g ASTM D2896	9.8	▲ 0.0	9.4	▲ 0.0



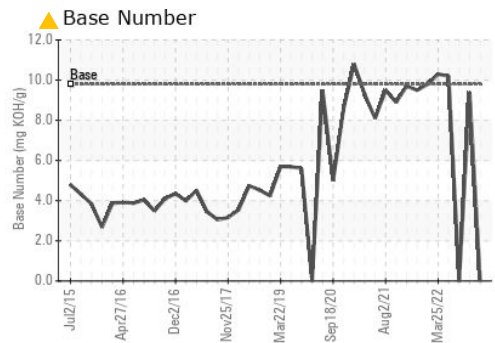
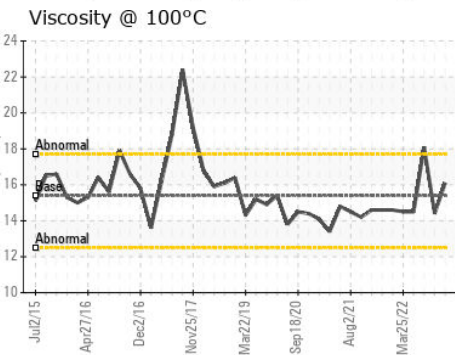
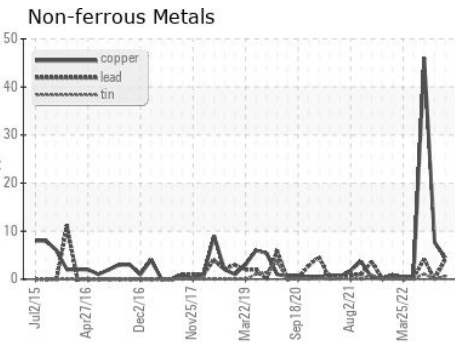
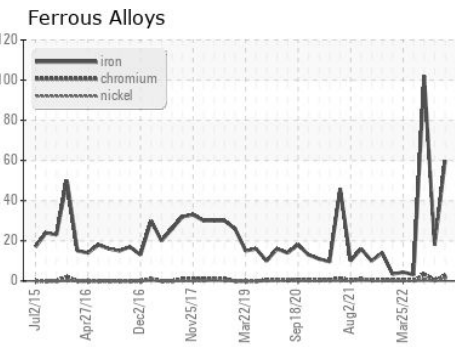
OIL ANALYSIS REPORT



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	16.1	14.4 ▲ 18.1

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103793 **Received** : 28 Feb 2024
Lab Number : 06102768 **Tested** : 29 Feb 2024
Unique Number : 10900998 **Diagnosed** : 29 Feb 2024 - Don Baldrige
Test Package : FLEET (Additional Tests: FuelDilution)

GFL Environmental - 020 - Alamance
 703 East Gilbreath St
 Graham, NC
 US 27253
 Contact:
 richard.belcher@gflenv.com
 T: (800)207-6618
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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)