

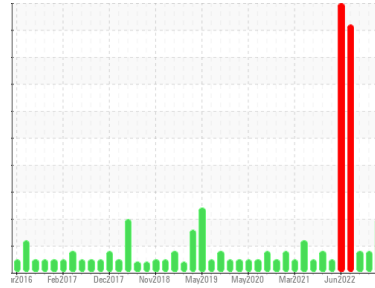


PROBLEM SUMMARY

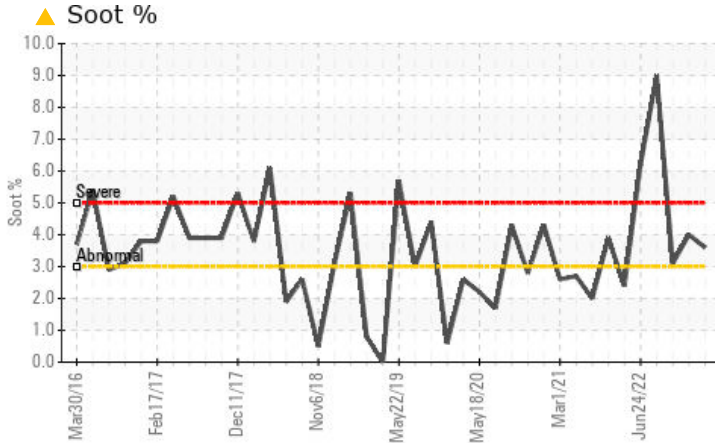
Sample Rating Trend

DEGRADATION

Machine Id
2449
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (48 QTS)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend you service the filters on this component. 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.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Soot %	%	*ASTM D7844	>3	▲ 3.6	▲ 4	▲ 3.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ 0.0	3.6	9.7

Customer Id: GFL001
Sample No.: GFL0056740
Lab Number: 05957511
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 Filter	---	---	?	We recommend you service the filters on this component.
Alert	---	---	?	NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

HISTORICAL DIAGNOSIS

26 Apr 2023 Diag: Wes Davis

SOOT



The oil change at the time of sampling has been noted. All component wear rates are normal. Light concentration of carbon/soot present in the oil. 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.

[view report](#)



18 Nov 2022 Diag: Jonathan Hester

SOOT



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is an abnormal amount of solids and carbon present 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](#)



20 Oct 2022 Diag: Don Baldrige

GLYCOL



We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check for the source of the coolant leak. 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. Cylinder, crank, or cam shaft wear is indicated. Sodium and/or potassium levels are high. Test for glycol is positive. 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.

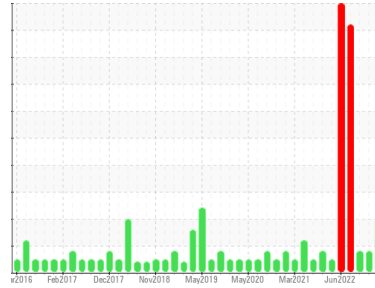
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OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Machine Id
2449

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (48 QTS)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend you service the filters on this component. 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.

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.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0056740	GFL0056712	GFL0056489
Sample Date	Client Info	20 Sep 2023	26 Apr 2023	18 Nov 2022
Machine Age	hrs	42260	41098	1341
Oil Age	hrs	0	538	744
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	54	53	54
Chromium	ppm ASTM D5185m >20	1	<1	<1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	0	1	1
Lead	ppm ASTM D5185m >40	2	0	1
Copper	ppm ASTM D5185m >330	80	9	12
Tin	ppm ASTM D5185m >15	6	<1	<1
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	3	2	9
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	59	58	62
Manganese	ppm ASTM D5185m 0	1	1	<1
Magnesium	ppm ASTM D5185m 1010	967	919	820
Calcium	ppm ASTM D5185m 1070	1116	1054	1087
Phosphorus	ppm ASTM D5185m 1150	1022	992	945
Zinc	ppm ASTM D5185m 1270	1255	1221	1133
Sulfur	ppm ASTM D5185m 2060	3407	3516	3560

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	2	3
Sodium	ppm ASTM D5185m	6	4	12
Potassium	ppm ASTM D5185m >20	2	<1	8

INFRA-RED

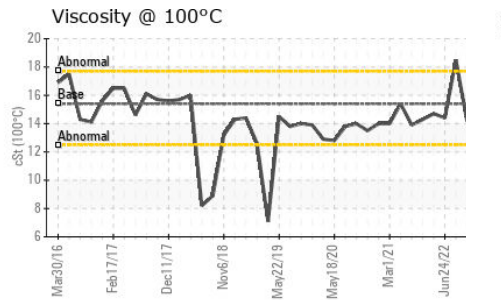
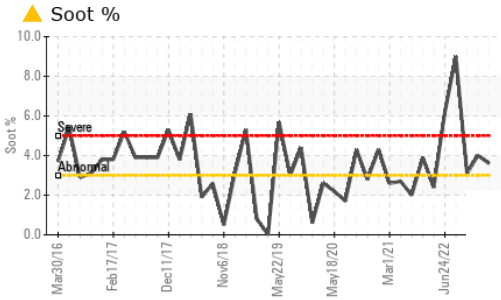
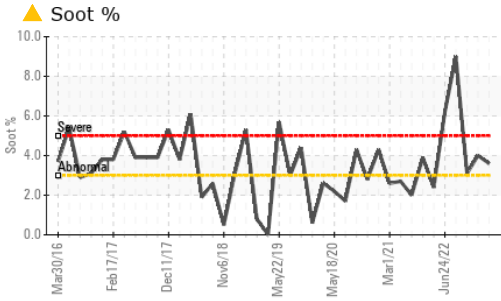
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	▲ 3.6	▲ 4	▲ 3.1
Nitration	Abs/cm *ASTM D7624 >20	11.3	9.2	8.5
Sulfation	Abs/.1mm *ASTM D7415 >30	29.5	24.0	24.5

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	17.5	15.1	14.2
Base Number (BN)	mg KOH/g ASTM D2896 9.8	▲ 0.0	3.6	9.7



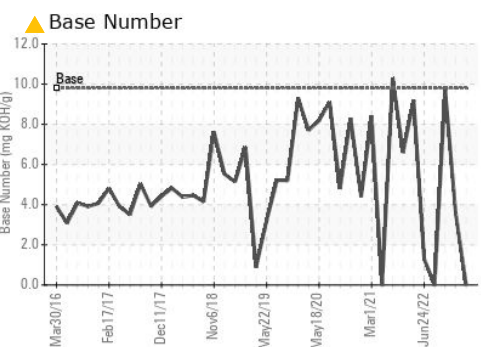
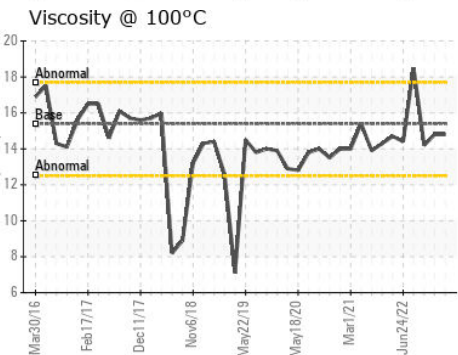
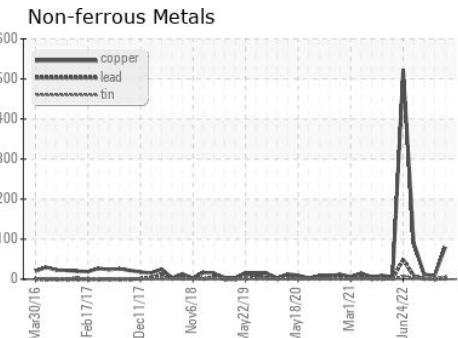
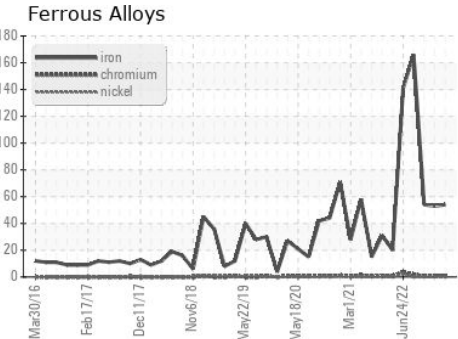
OIL ANALYSIS REPORT



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	14.8	14.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0056740
Lab Number : 05957511
Unique Number : 10658724
Test Package : FLEET

GFL Environmental - 001 - Raleigh(CNG)
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 Garner, NC
 US 27529
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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)