



PROBLEM SUMMARY

Sample Rating Trend

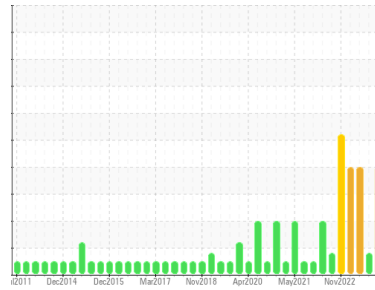
SOOT



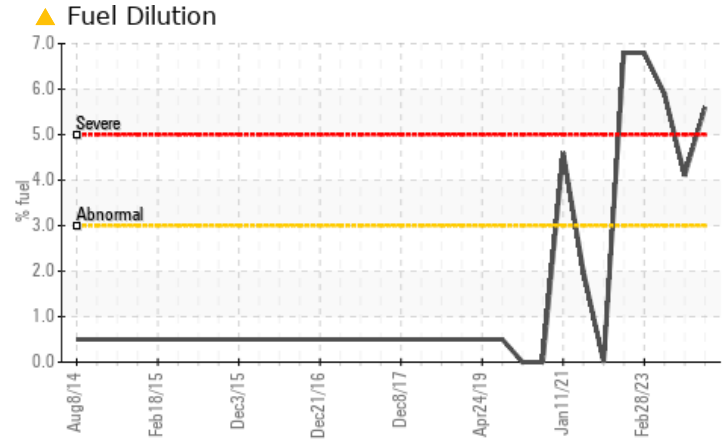
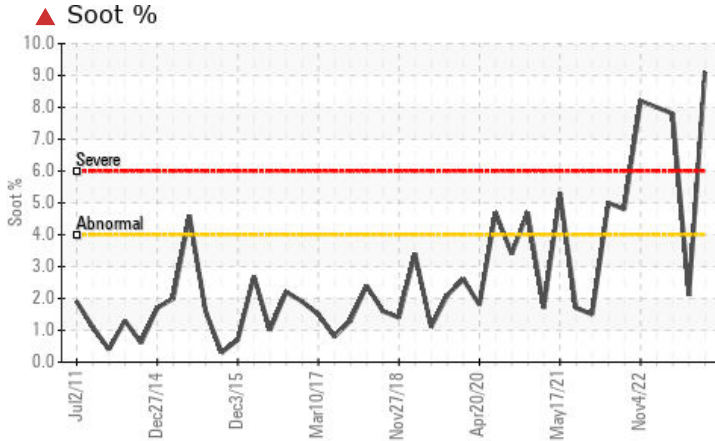
Machine Id
2307

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (44 QTS)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check the fuel injection system. 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. Please note that this is a corrected copy for data entry updates.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Fuel	%	ASTM D3524	>3.0	▲ 5.6	▲ 4.1	▲ 5.9
Soot %	%	*ASTM D7844	>4	▲ 9.1	2.1	▲ 7.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ 0.0	9.1	▲ 0.0

Customer Id: GFL108
Sample No.: GFL0083382
Lab Number: 06104038
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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 Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Fluid	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
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.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

04 Oct 2023 Diag: Wes Davis

FUEL



The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel 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



03 Aug 2023 Diag: Don Baldrige

SOOT



We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check the fuel injection system. 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. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. There is a moderate amount of fuel present in the oil. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

view report



28 Feb 2023 Diag: Don Baldrige

SOOT



We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check the fuel injection system. 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. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. There is a moderate amount of fuel present in the oil. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

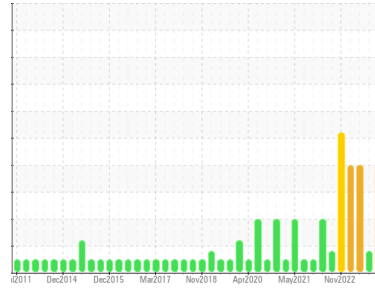
view report





OIL ANALYSIS REPORT

Sample Rating Trend



SOOT



Machine Id
2307

Component

Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (44 QTS)

DIAGNOSIS

▲ Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check the fuel injection system. 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. Please note that this is a corrected copy for data entry updates.

Wear

All component wear rates are normal.

▲ Contamination

There is an abnormal amount of solids and carbon present in the oil. There is a moderate amount of fuel 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		GFL0083382	GFL0083364	GFL0083346
Sample Date	Client Info		28 Feb 2024	04 Oct 2023	03 Aug 2023
Machine Age	hrs	Client Info	0	35500	35774
Oil Age	hrs	Client Info	0	600	35774
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	ABNORMAL	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	29	13	59
Chromium	ppm	ASTM D5185m >20	1	<1	1
Nickel	ppm	ASTM D5185m >5	<1	<1	<1
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >20	2	<1	<1
Lead	ppm	ASTM D5185m >40	<1	0	8
Copper	ppm	ASTM D5185m >330	4	2	6
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	2	8	4
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	53	59	55
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	896	936	812
Calcium	ppm	ASTM D5185m 1070	979	1039	991
Phosphorus	ppm	ASTM D5185m 1150	911	1070	895
Zinc	ppm	ASTM D5185m 1270	1156	1264	1070
Sulfur	ppm	ASTM D5185m 2060	2897	3186	2522

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	3	2	4
Sodium	ppm	ASTM D5185m	2	<1	0
Potassium	ppm	ASTM D5185m >20	<1	2	5
Fuel	%	ASTM D3524 >3.0	▲ 5.6	▲ 4.1	▲ 5.9

INFRA-RED

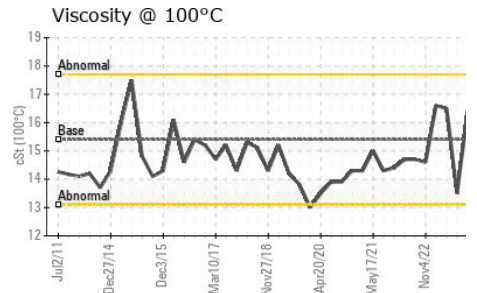
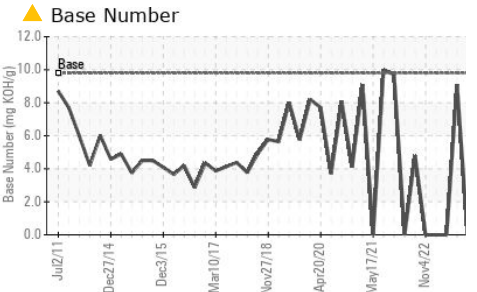
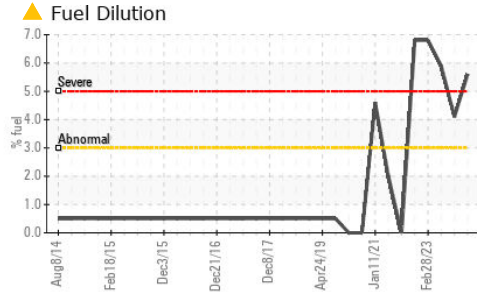
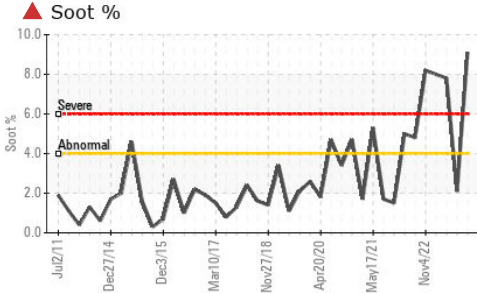
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	▲ 9.1	2.1	▲ 7.8
Nitration	Abs/cm	*ASTM D7624 >20	19.5	6.8	35.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	37.7	20.4	65.4

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	37.9	12.8	93.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	▲ 0.0	9.1	▲ 0.0



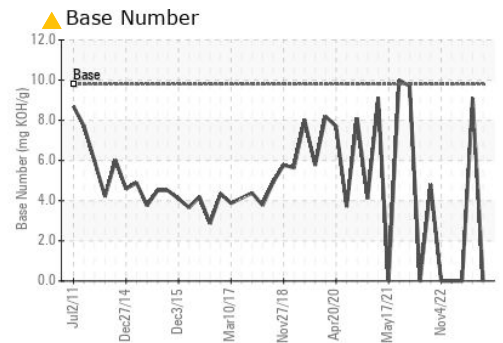
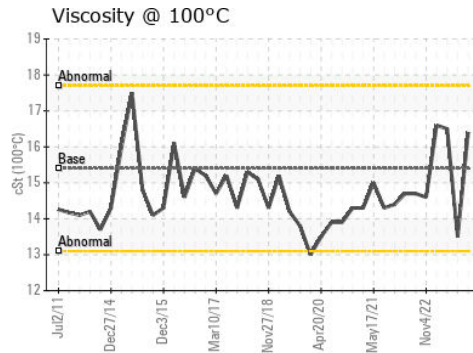
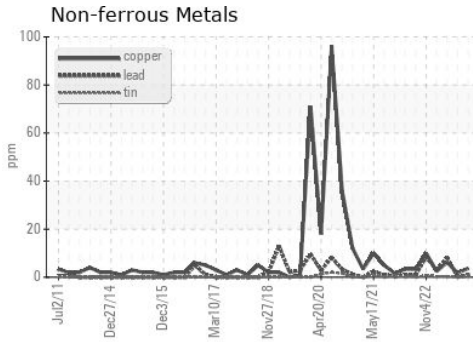
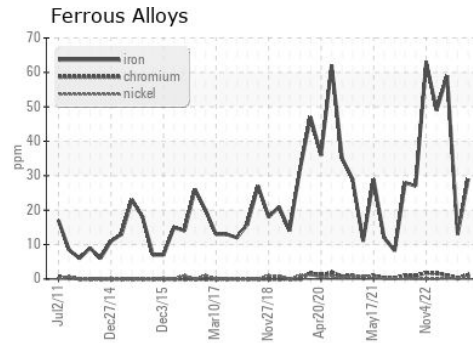
OIL ANALYSIS REPORT



PARAMETER	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	16.4	13.5	16.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0083382 **Received** : 29 Feb 2024
Lab Number : 06104038 **Tested** : 05 Mar 2024
Unique Number : 10902268 **Diagnosed** : 05 Mar 2024 - Doug Bogart
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 108 - Whiteville
 5240 James B White Hwy South
 Whiteville, NC
 US 28472
 Contact: Victor McGee
 victor.mcgee@gflenv.com

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)

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F: