



PROBLEM SUMMARY

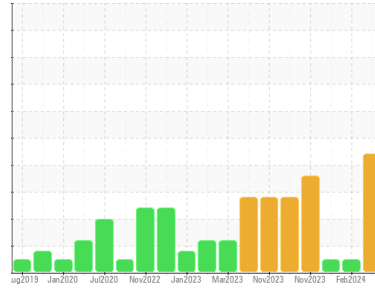
Sample Rating Trend

FUEL

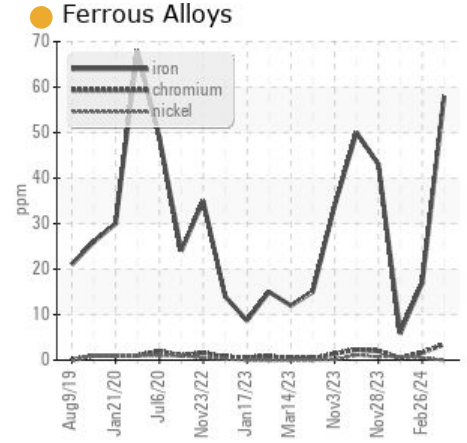
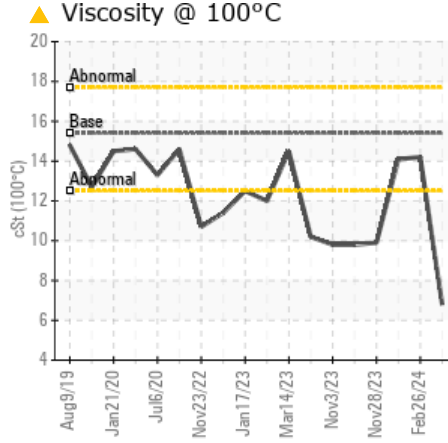
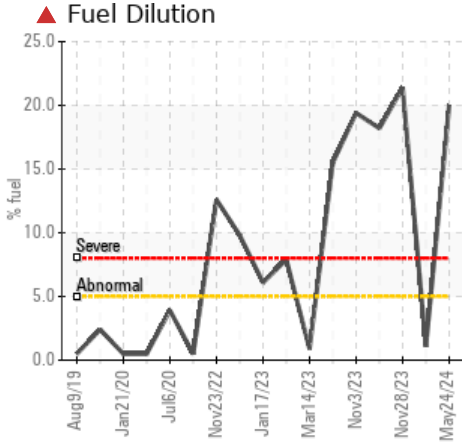


Area
(80J3TW) GFL837
Machine Id
722023-310031

Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the fuel injection system. 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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Fuel	%	ASTM D3524	>5	▲ 20.0	<1.0	1.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ 3.5	9.1	8.8
Visc @ 100°C	cSt	ASTM D445	15.4	▲ 6.8	14.2	14.1

Customer Id: GFL836
Sample No.: GFL0122832
Lab Number: 06195185
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
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jhester@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	---	---	?	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.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

NORMAL



26 Feb 2024 Diag: Wes Davis

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



NORMAL



25 Jan 2024 Diag: Wes Davis

No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected 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



FUEL



28 Nov 2023 Diag: Jonathan Hester

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. All component wear rates are normal. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN level is low.

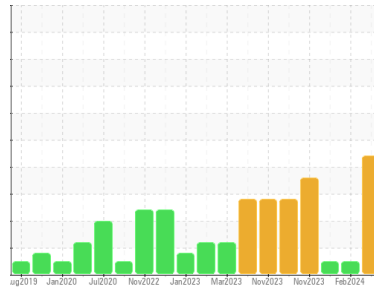
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OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
(80J3TW) GFL837
 Machine Id
722023-310031
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

We advise that you check the fuel injection system. 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.

● Wear

All component wear rates are normal.

▲ Contamination

There is a high amount of fuel present in the oil.

▲ Fluid Condition

Fuel is present in the oil and is lowering the viscosity. 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	GFL0122832	GFL0109847	GFL0103268
Sample Date	Client Info	24 May 2024	26 Feb 2024	25 Jan 2024
Machine Age	hrs	22944	22685	22512
Oil Age	hrs	259	600	0
Oil Changed	Client Info	Not Chngd	Changed	Not Chngd
Sample Status		SEVERE	NORMAL	NORMAL

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 >100	58	17	6
Chromium	ppm ASTM D5185m >20	4	2	<1
Nickel	ppm ASTM D5185m >4	0	<1	<1
Titanium	ppm ASTM D5185m	0	<1	0
Silver	ppm ASTM D5185m >3	0	0	<1
Aluminum	ppm ASTM D5185m >20	2	3	2
Lead	ppm ASTM D5185m >40	0	0	2
Copper	ppm ASTM D5185m >330	3	<1	0
Tin	ppm ASTM D5185m >15	0	<1	<1
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	0	8	6
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	30	59	56
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	459	867	883
Calcium	ppm ASTM D5185m 1070	507	1154	1043
Phosphorus	ppm ASTM D5185m 1150	480	997	972
Zinc	ppm ASTM D5185m 1270	577	1214	1214
Sulfur	ppm ASTM D5185m 2060	1446	3169	2993

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	8	4	3
Sodium	ppm ASTM D5185m	11	27	26
Potassium	ppm ASTM D5185m >20	1	2	<1
Fuel	% ASTM D3524 >5	▲ 20.0	<1.0	1.1

INFRA-RED

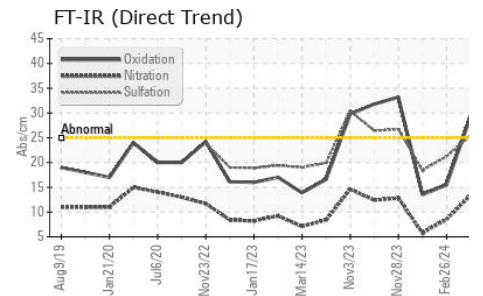
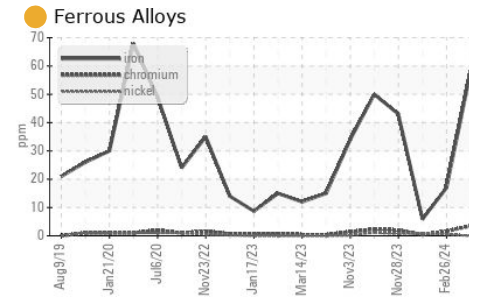
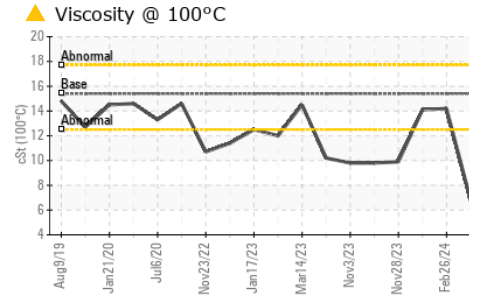
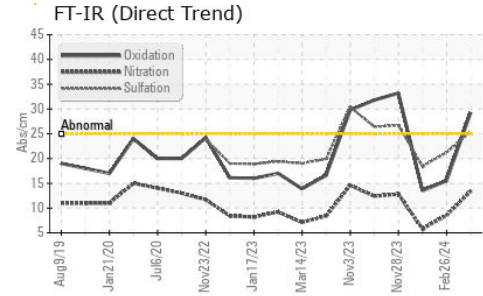
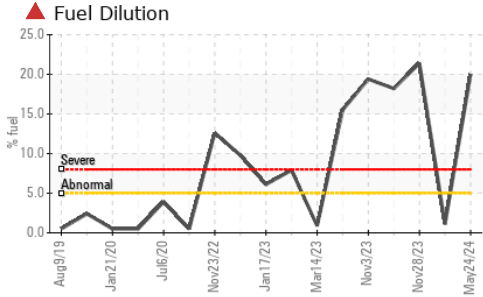
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.9	1.3	0.5
Nitration	Abs/cm *ASTM D7624 >20	13.4	8.5	5.8
Sulfation	Abs/.1mm *ASTM D7415 >30	25.4	21.2	18.4

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	29.3	15.5	13.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	▲ 3.5	9.1	8.8



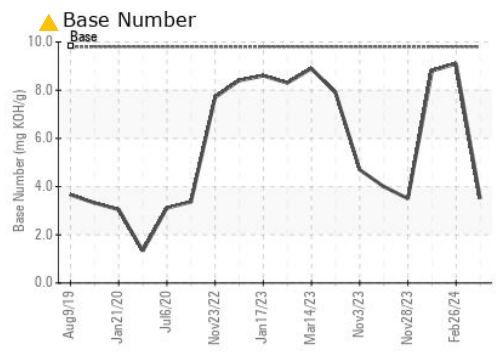
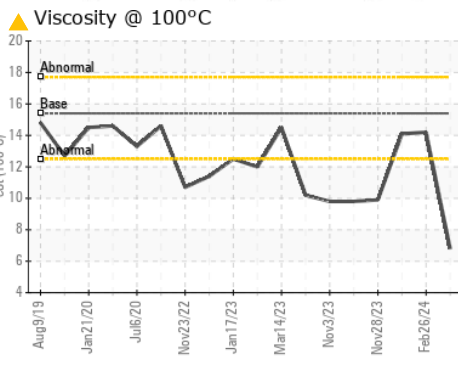
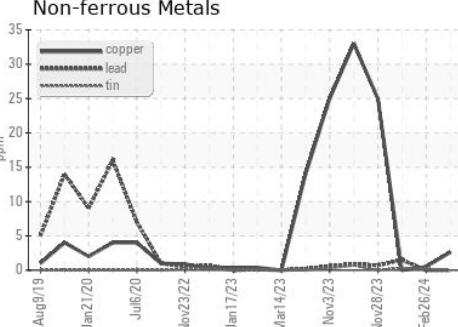
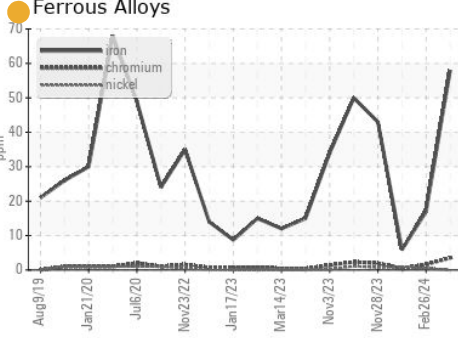
OIL ANALYSIS REPORT



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 ▲ 6.8	14.2	14.1

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122832 **Received** : 30 May 2024
Lab Number : 06195185 **Tested** : 05 Jun 2024
Unique Number : 11057308 **Diagnosed** : 05 Jun 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@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)