



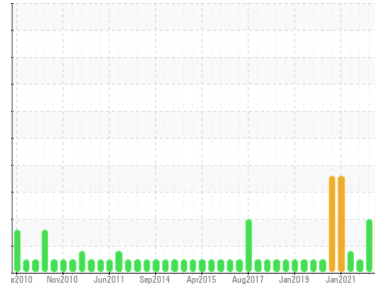
PROBLEM SUMMARY

Sample Rating Trend

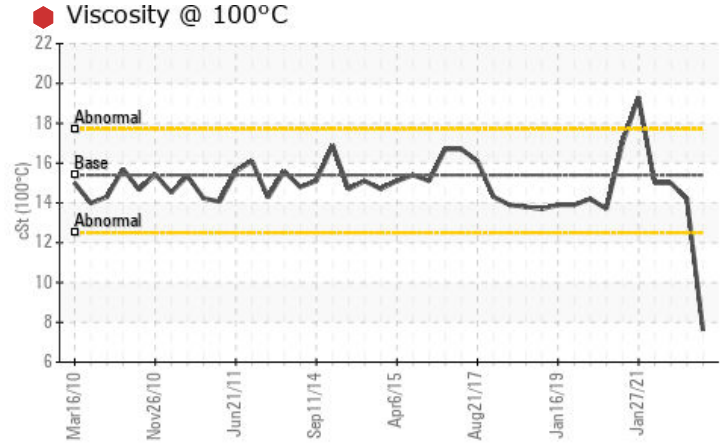
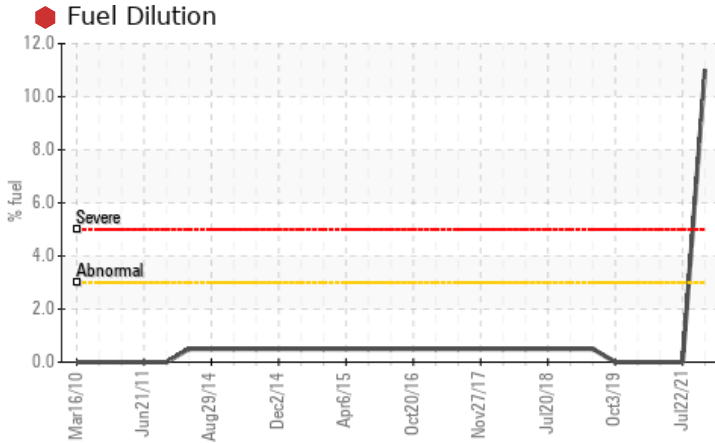
FUEL



Machine Id
2271
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	NORMAL
Fuel	%	ASTM D3524	>3.0	11.0	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	15.4	7.6	14.2	15.0

Customer Id: GFL045
Sample No.: GFL0103890
Lab Number: 06065355
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.
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

24 Oct 2022 Diag: Jonathan Hester

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](#)



14 Dec 2021 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 Jul 2021 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.

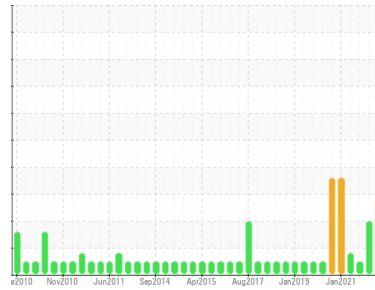
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
2271
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (7 GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been 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. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0103890	GFL0060149	GFL0039889
Sample Date	Client Info		15 Jan 2024	24 Oct 2022	14 Dec 2021
Machine Age	mls	Client Info	455959	34617	455959
Oil Age	mls	Client Info	455959	34617	33327
Oil Changed	Client Info		N/A	Changed	Changed
Sample Status			SEVERE	ABNORMAL	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 >120	6	32	36
Chromium	ppm	ASTM D5185m >20	0	<1	1
Nickel	ppm	ASTM D5185m >5	0	0	0
Titanium	ppm	ASTM D5185m >2	0	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	<1	3	4
Lead	ppm	ASTM D5185m >40	<1	2	3
Copper	ppm	ASTM D5185m >330	3	12	4
Tin	ppm	ASTM D5185m >15	0	1	<1
Antimony	ppm	ASTM D5185m	---	---	0
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	1	0	2
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	45	52	56
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	753	834	931
Calcium	ppm	ASTM D5185m 1070	757	1004	1066
Phosphorus	ppm	ASTM D5185m 1150	838	874	967
Zinc	ppm	ASTM D5185m 1270	963	1148	1144
Sulfur	ppm	ASTM D5185m 2060	2429	2934	2477

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	3	6	3
Sodium	ppm	ASTM D5185m	2	0	2
Potassium	ppm	ASTM D5185m >20	0	<1	0
Fuel	%	ASTM D3524 >3.0	11.0	<1.0	<1.0

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.1	▲ 5.9	2.8
Nitration	Abs/cm	*ASTM D7624 >20	4.8	13.1	9.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	15.3	30.3	23.4

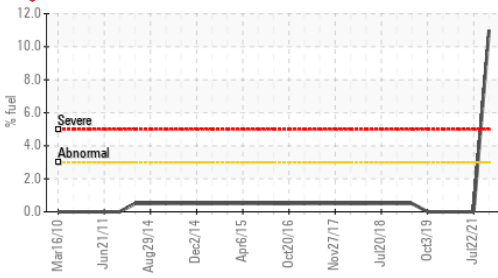
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	10.6	16.6	15
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.5	▲ 0.0	7.4

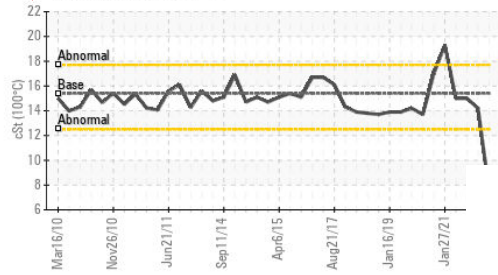


OIL ANALYSIS REPORT

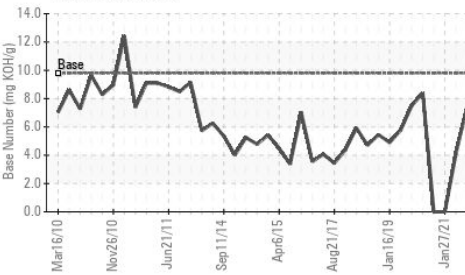
Fuel Dilution



Viscosity @ 100°C



Base Number



VISUAL

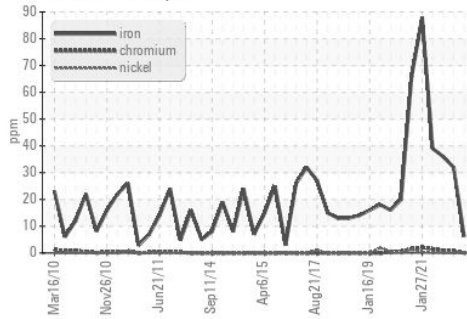
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*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

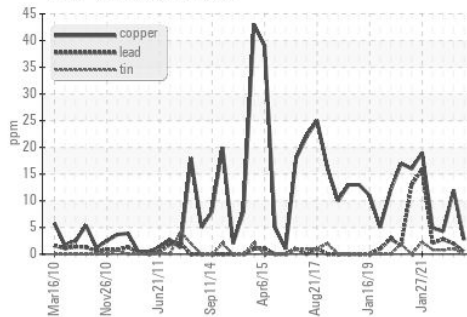
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	7.6	14.2	15.0

GRAPHS

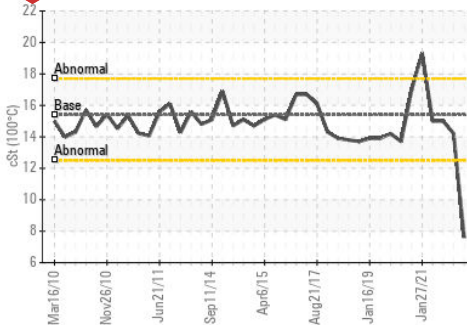
Ferrous Alloys



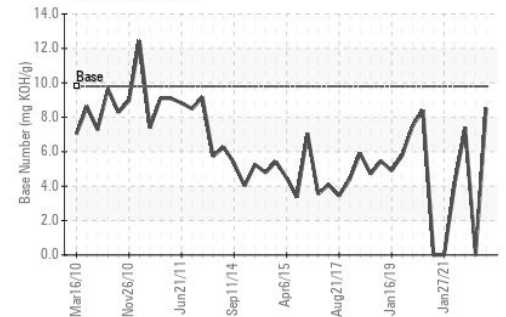
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103890 **Received** : 19 Jan 2024
Lab Number : 06065355 **Diagnosed** : 23 Jan 2024
Unique Number : 10836737 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 045 - Tidewater
 3821 Cook Blvd.
 Chesapeake, VA
 US 23323
 Contact: ELVIN RODRIGUEZ
 elvinrodriguez@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)

T:
F: