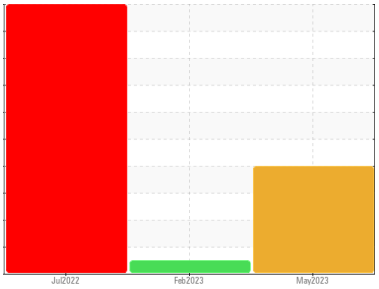
PROBLEM SUMMARY

Sample Rating Trend

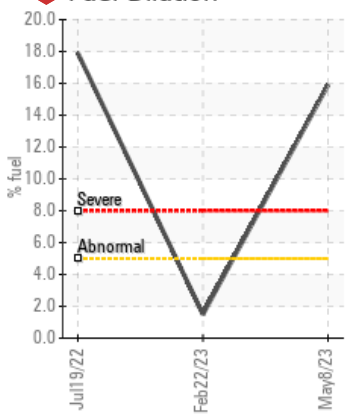


FUEL

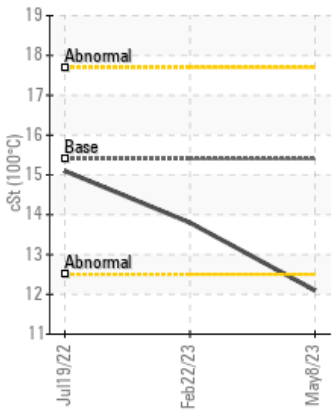
Machine Id
722011-1169
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

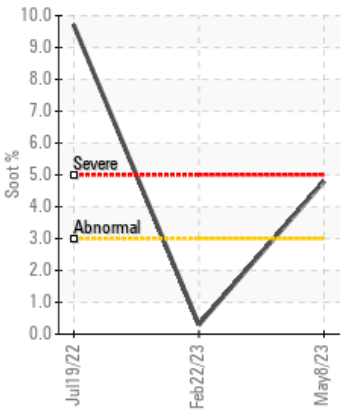
Fuel Dilution



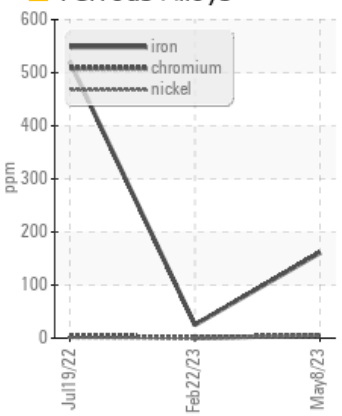
Viscosity @ 100°C



Soot %



Ferrous Alloys



RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	SEVERE
Iron	ppm	ASTM D5185m	>100	▲ **161**	25	⬢ 521
Fuel	%	ASTM D3524	>5	⬢ **15.9**	1.5	⬢ 17.9
Soot %	%	*ASTM D7844	>3	▲ **4.8**	0.3	⬢ 9.7
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.1**	13.8	▲ 15.1

Customer Id: GFL622
Sample No.: GFL0078764
Lab Number: 05845208
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
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	---	---	?	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.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

22 Feb 2023 Diag: Don Baldridge

NORMAL

Resample at the next service interval to monitor.All component wear rates are normal. Fuel content negligible. 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

19 Jul 2022 Diag: Jonathan Hester

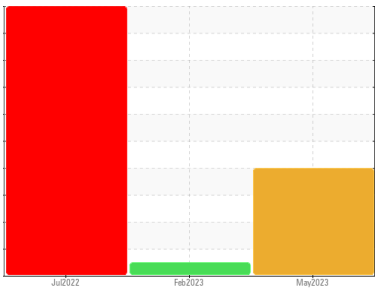
WEAR

We advise that you check the fuel injection system. 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 advise that you inspect for the source(s) of wear. 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.Piston and cylinder wear is indicated. There is a high amount of fuel present in the oil. There is an abnormal amount of solids and carbon present in the oil. 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.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
722011-1169
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
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.

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

Contamination
There is a high amount of fuel present in the oil. There is an abnormal amount of solids and carbon present in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. 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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0078764**	GFL0071387	GFL0054031
Sample Date		Client Info		**08 May 2023**	22 Feb 2023	19 Jul 2022
Machine Age	hrs	Client Info		**10700**	11596	11557
Oil Age	hrs	Client Info		**600**	200	0
Oil Changed		Client Info		**Changed**	Not Changd	N/A
Sample Status				**SEVERE**	NORMAL	SEVERE

CONTAMINATION	method	limit/base	current	history1	history2
Glycol	WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	▲ **161**	25	⬢ 521
Chromium	ppm	ASTM D5185m	>20	**5**	<1	5
Nickel	ppm	ASTM D5185m	>4	**3**	0	1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**12**	4	⬢ 41
Lead	ppm	ASTM D5185m	>40	**4**	0	14
Copper	ppm	ASTM D5185m	>330	**3**	1	5
Tin	ppm	ASTM D5185m	>15	**<1**	0	2
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**125**	273	113
Barium	ppm	ASTM D5185m	0	**0**	<1	0
Molybdenum	ppm	ASTM D5185m	60	**101**	103	101
Manganese	ppm	ASTM D5185m	0	**2**	<1	3
Magnesium	ppm	ASTM D5185m	1010	**471**	500	419
Calcium	ppm	ASTM D5185m	1070	**1450**	1587	1156
Phosphorus	ppm	ASTM D5185m	1150	**684**	723	544
Zinc	ppm	ASTM D5185m	1270	**837**	886	688
Sulfur	ppm	ASTM D5185m	2060	**2786**	3084	2135

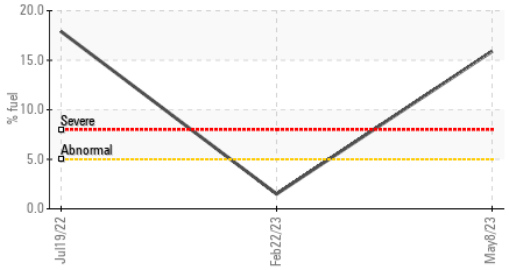
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**10**	8	14
Sodium	ppm	ASTM D5185m		**4**	3	5
Potassium	ppm	ASTM D5185m	>20	**6**	0	2
Fuel	%	ASTM D3524	>5	⬢ **15.9**	1.5	⬢ 17.9

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	▲ **4.8**	0.3	⬢ 9.7
Nitration	Abs/cm	*ASTM D7624	>20	**17.3**	5.6	44.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	**31.1**	20.8	63.7

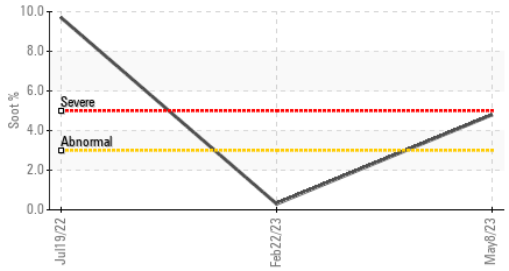
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**21.6**	13.7	80.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.4**	9.6	▲ 0.0

OIL ANALYSIS REPORT

Fuel Dilution



Soot %

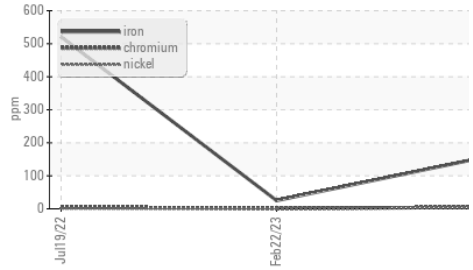


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

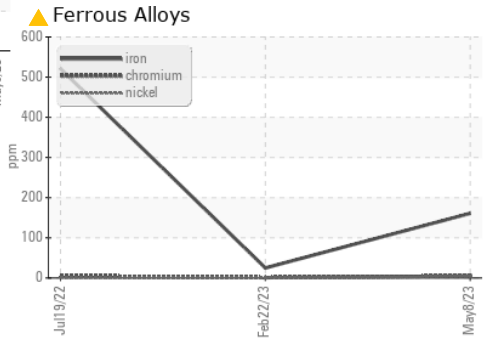
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.1**	13.8	▲ 15.1

GRAPHS

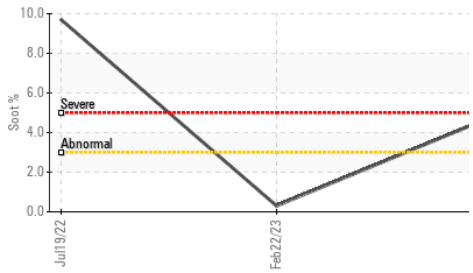
Ferrous Alloys



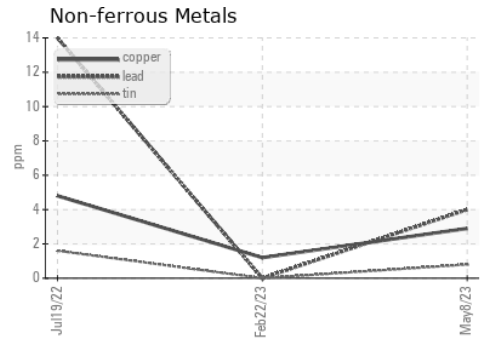
Ferrous Alloys



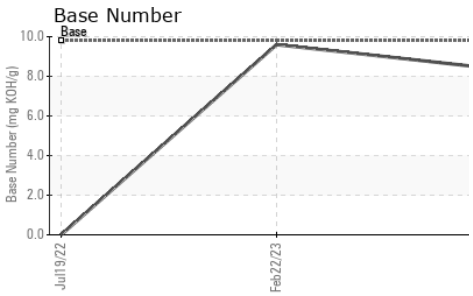
Soot %



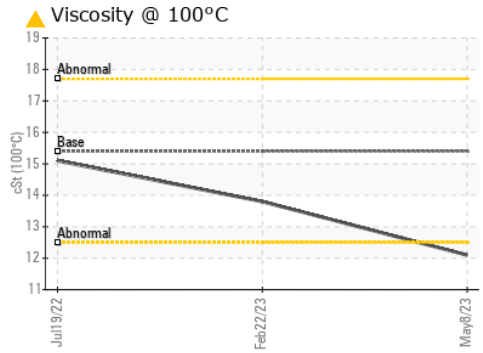
Non-ferrous Metals



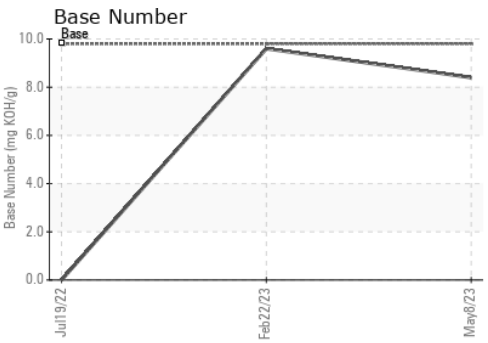
Base Number



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0078764
Lab Number : 05845208
Unique Number : 10469315
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 12 May 2023
Diagnosed : 16 May 2023
Diagnostician : Jonathan Hester

GFL Environmental - 622 - Traverse City Hauling
160 Hughes Dr
Traverse City, MI
US 49686
Contact: GARY BREWER
T:
F:

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)