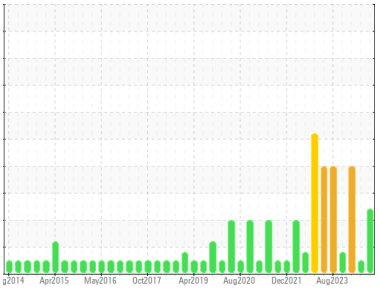
PROBLEM SUMMARY

Sample Rating Trend

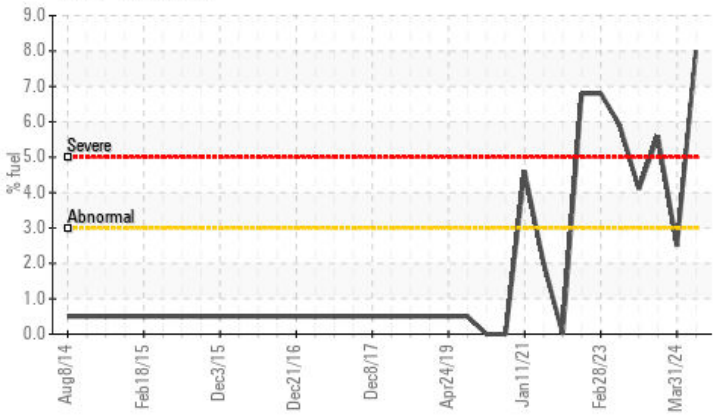


FUEL

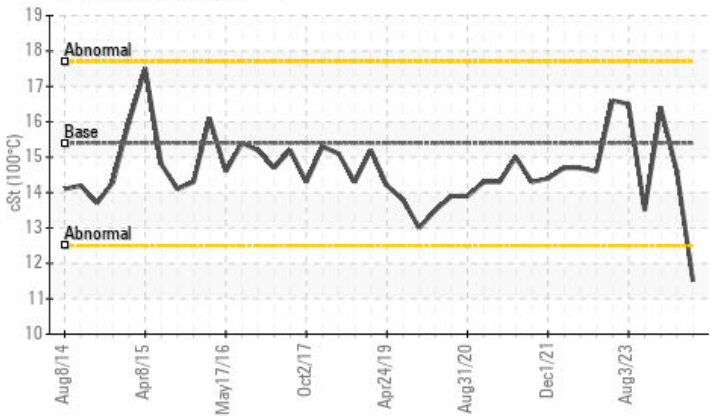
Machine Id
2307
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (44 QTS)

COMPONENT CONDITION SUMMARY

▲ Fuel Dilution



▲ Viscosity @ 100°C



RECOMMENDATION

We advise that you check the fuel injection system. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	NORMAL	SEVERE
Fuel	%	ASTM D3524	>3.0	▲ **8.0**	2.5	▲ 5.6
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.5**	14.6	16.4

Customer Id: GFL007
Sample No.: GFL0123382
Lab Number: 06223335
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
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

31 Mar 2024 Diag: Doug Bogart

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. Fuel content negligible. 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

SOOT

28 Feb 2024 Diag: Doug Bogart

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.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

FUEL

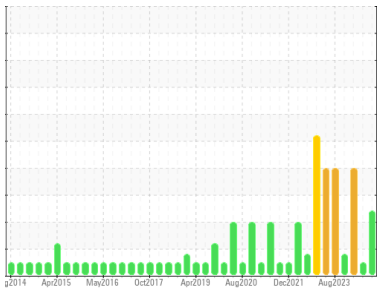
04 Oct 2023 Diag: Wes Davis

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

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
2307
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (44 QTS)

DIAGNOSIS

▲ Recommendation
We advise that you check the fuel injection system. 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 result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0123382**	GFL0083347	GFL0083382
Sample Date		Client Info		**20 Jun 2024**	31 Mar 2024	28 Feb 2024
Machine Age	hrs	Client Info		**0**	36805	0
Oil Age	hrs	Client Info		**150**	600	0
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	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	**12**	7	29
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>5	**0**	0	<1
Titanium	ppm	ASTM D5185m	>2	**<1**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**4**	<1	2
Lead	ppm	ASTM D5185m	>40	**1**	0	<1
Copper	ppm	ASTM D5185m	>330	**2**	0	4
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**2**	2	2
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**52**	56	53
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**873**	938	896
Calcium	ppm	ASTM D5185m	1070	**1037**	991	979
Phosphorus	ppm	ASTM D5185m	1150	**954**	1024	911
Zinc	ppm	ASTM D5185m	1270	**1174**	1196	1156
Sulfur	ppm	ASTM D5185m	2060	**2911**	3426	2897

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**11**	2	3
Sodium	ppm	ASTM D5185m		**6**	2	2
Potassium	ppm	ASTM D5185m	>20	**2**	1	<1
Fuel	%	ASTM D3524	>3.0	▲ **8.0**	2.5	▲ 5.6

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.4**	2.6	▲ 9.1
Nitration	Abs/cm	*ASTM D7624	>20	**11.9**	6.8	19.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**22.9**	21.2	37.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**20.4**	13.0	37.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**5.0**	9.0	▲ 0.0

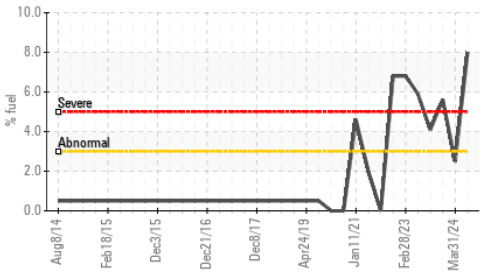
OIL ANALYSIS REPORT

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

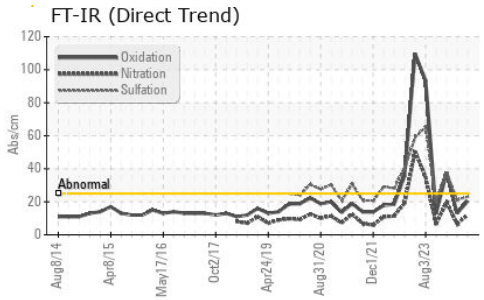
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.5**	14.6	16.4

GRAPHS

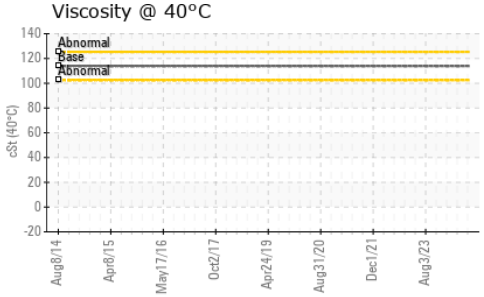
Fuel Dilution



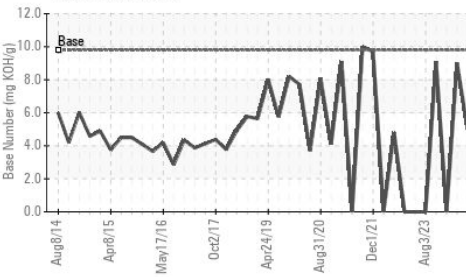
FT-IR (Direct Trend)



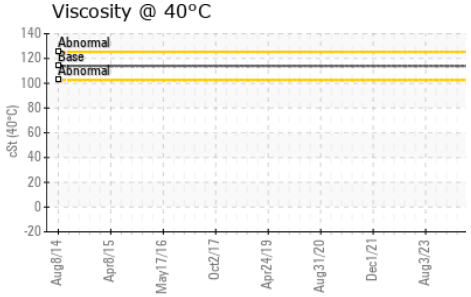
Viscosity @ 40°C



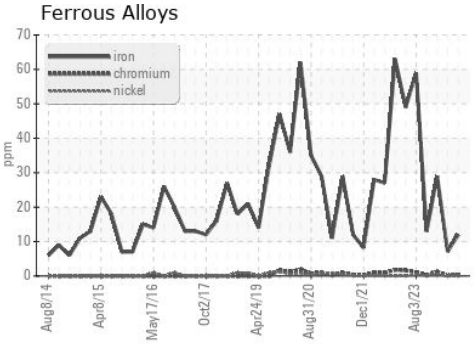
Base Number



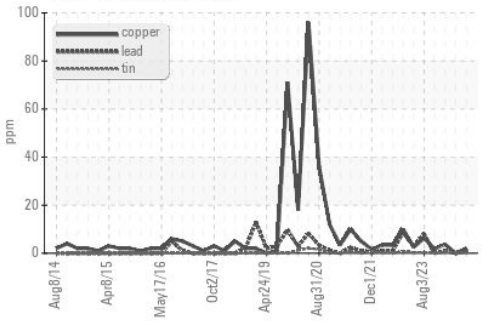
Viscosity @ 40°C



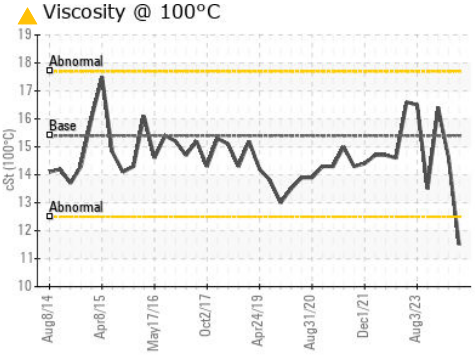
Ferrous Alloys



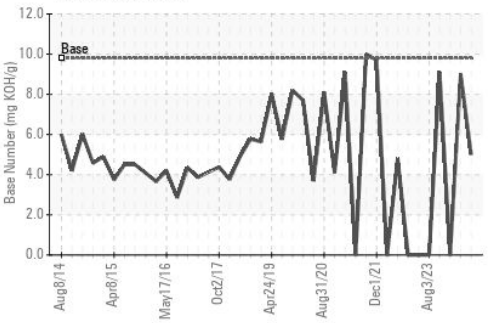
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0123382
Lab Number : 06223335
Unique Number : 11101532
Test Package : FLEET (Additional Tests: FuelDilution, KV40, PercentFuel)

Certificate L2367

Received : 28 Jun 2024
Tested : 03 Jul 2024
Diagnosed : 03 Jul 2024 - Jonathan Hester

GFL Environmental - 007 - Brunswick
2809 Galloway Road
Bolivia, NC
US 28422
Contact: DONALD CRAVEN
dcraven@gflenv.com
T:
F: (910)253-4179

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)