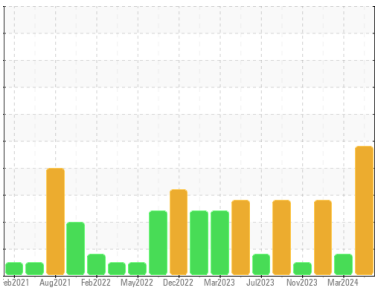
PROBLEM SUMMARY

Sample Rating Trend

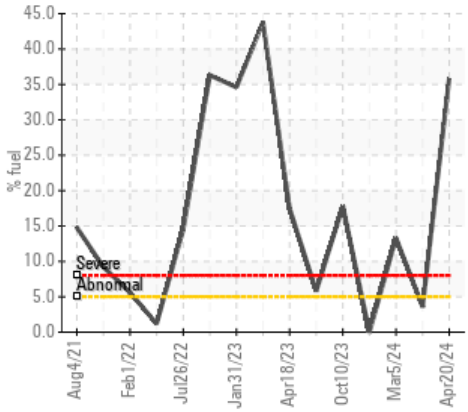


FUEL

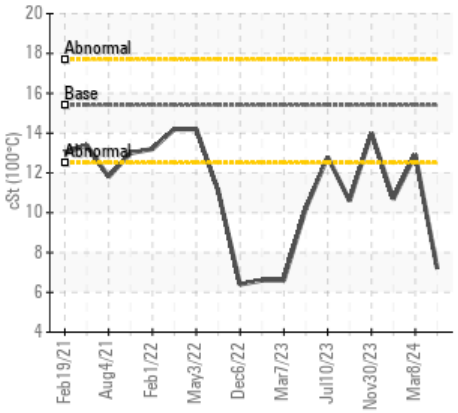
Machine Id
827036-1040
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (22 QTS)

COMPONENT CONDITION SUMMARY

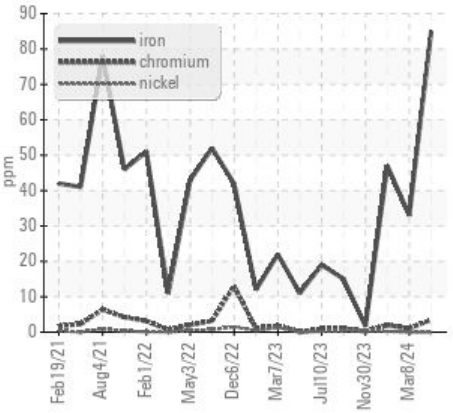
▲ Fuel Dilution



▲ Viscosity @ 100°C



▲ 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**	MARGINAL	SEVERE
Iron	ppm	ASTM D5185m	>80	▲ **85**	33	47
Fuel	%	ASTM D3524	>5	▲ **35.8**	▲ 3.6	▲ 13.3
Oxidation	Abs/.1mm	*ASTM D7414	>25	▲ **27.9**	22.3	16.9
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **7.2**	12.9	▲ 10.7

Customer Id: GFL622
Sample No.: GFL0110312
Lab Number: 06158377
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Sean Felton +1 919-379-4092
sfelton@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

FUEL

08 Mar 2024 Diag: Jonathan Hester
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. 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

05 Mar 2024 Diag: Jonathan Hester
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.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 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

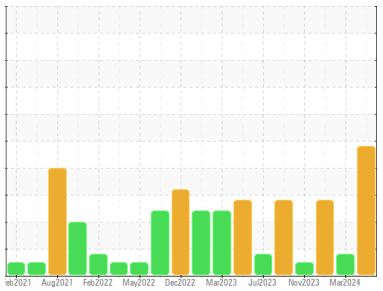
NORMAL

30 Nov 2023 Diag: Jonathan Hester
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

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
827036-1040
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (22 QTS)

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
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 oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0110312**	GFL0110341	GFL0110305
Sample Date		Client Info		**20 Apr 2024**	08 Mar 2024	05 Mar 2024
Machine Age	hrs	Client Info		**14773**	14227	14437
Oil Age	hrs	Client Info		**590**	370	241
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**SEVERE**	MARGINAL	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	>80	▲ **85**	33	47
Chromium	ppm	ASTM D5185m	>5	**4**	1	2
Nickel	ppm	ASTM D5185m	>2	**0**	0	<1
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>30	**2**	2	3
Lead	ppm	ASTM D5185m	>30	**0**	0	<1
Copper	ppm	ASTM D5185m	>150	**3**	<1	3
Tin	ppm	ASTM D5185m	>5	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**1**	0	3
Barium	ppm	ASTM D5185m	0	**0**	0	<1
Molybdenum	ppm	ASTM D5185m	60	**37**	62	49
Manganese	ppm	ASTM D5185m	0	**1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**542**	903	732
Calcium	ppm	ASTM D5185m	1070	**648**	1078	894
Phosphorus	ppm	ASTM D5185m	1150	**572**	1020	788
Zinc	ppm	ASTM D5185m	1270	**713**	1220	998
Sulfur	ppm	ASTM D5185m	2060	**1769**	3055	2396

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**14**	3	15
Sodium	ppm	ASTM D5185m		**6**	8	6
Potassium	ppm	ASTM D5185m	>20	**0**	<1	2
Fuel	%	ASTM D3524	>5	▲ **35.8**	▲ 3.6	▲ 13.3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.2**	0.7	0.7
Nitration	Abs/cm	*ASTM D7624	>20	**15.4**	11.6	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.5**	22.9	19.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	▲ **27.9**	22.3	16.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**5.3**	5.8	7.8

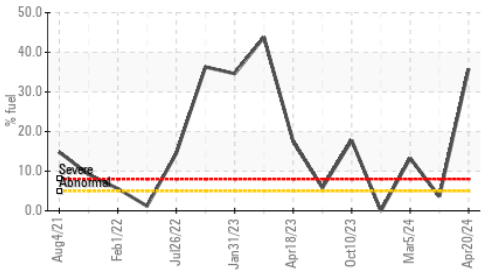
OIL ANALYSIS REPORT

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

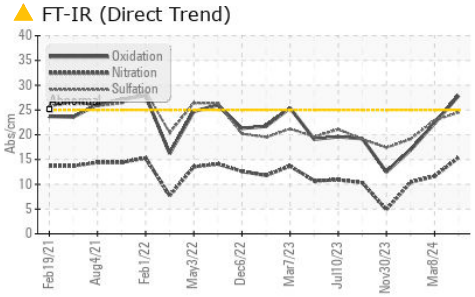
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **7.2**	12.9	▲ 10.7

GRAPHS

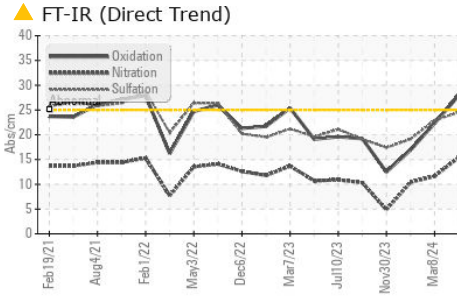
Fuel Dilution



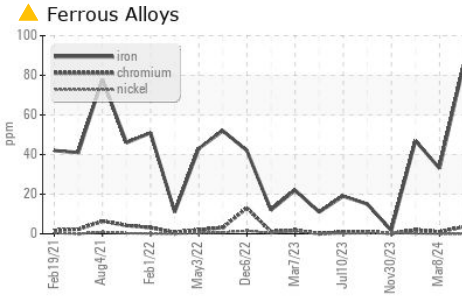
FT-IR (Direct Trend)



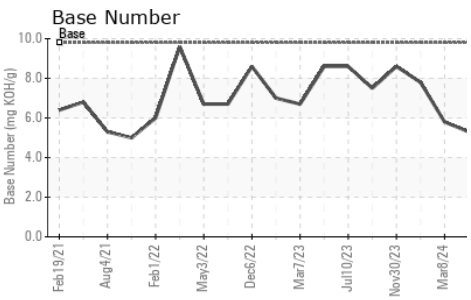
FT-IR (Direct Trend)



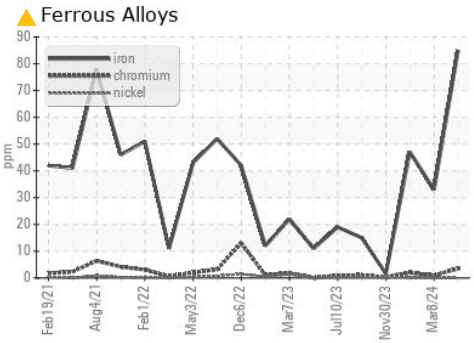
Ferrous Alloys



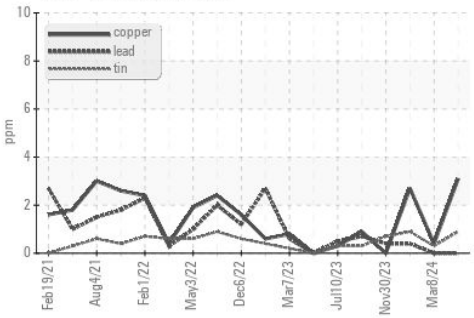
Base Number



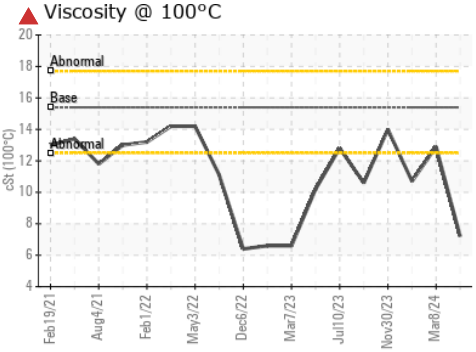
Ferrous Alloys



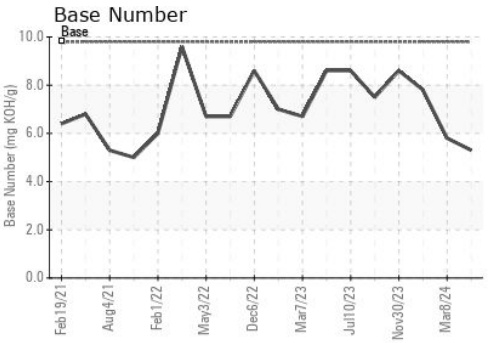
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0110312
Lab Number : 06158377
Unique Number : 10993800
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 23 Apr 2024
Tested : 25 Apr 2024
Diagnosed : 25 Apr 2024 - Sean Felton

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

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: