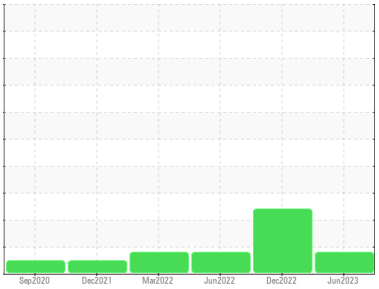
PROBLEM SUMMARY

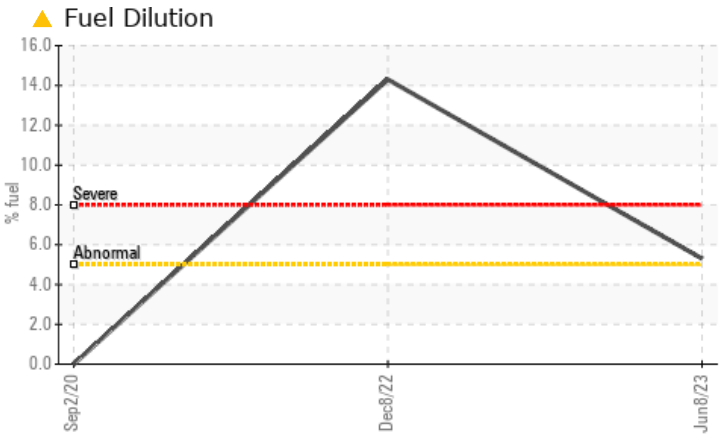
Sample Rating Trend



FUEL

Machine Id
12003
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	SEVERE	ABNORMAL
Fuel	%	ASTM D3524	>5	▲ 5.3	⬢ 14.3	<1.0

Customer Id: GFL015
Sample No.: GFL0082202
Lab Number: 05871837
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
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

08 Dec 2022 Diag: Don Baldridge

FUEL

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

view report

15 Jun 2022 Diag: Wes Davis

SOOT

The oil change at the time of sampling has been noted. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.Metal levels are typical for a new component breaking in. Light concentration of carbon/soot present 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

24 Mar 2022 Diag: Don Baldridge

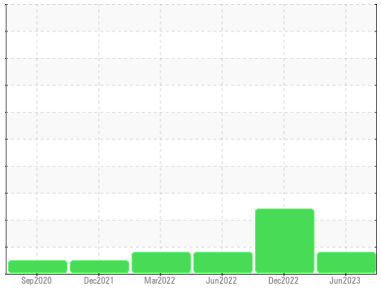
WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other 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

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
12003
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Metal levels are typical for a new component breaking in.

Contamination
There is a moderate 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. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0082202**	GFL0063090	GFL0053702
Sample Date		Client Info		**08 Jun 2023**	08 Dec 2022	15 Jun 2022
Machine Age	hrs	Client Info		**460**	146540	353
Oil Age	hrs	Client Info		**760**	146540	353
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	SEVERE	ABNORMAL

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	**107**	77	136
Chromium	ppm	ASTM D5185m	>20	**7**	2	4
Nickel	ppm	ASTM D5185m	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	**7**	6	7
Lead	ppm	ASTM D5185m	>40	**7**	5	6
Copper	ppm	ASTM D5185m	>330	**13**	60	288
Tin	ppm	ASTM D5185m	>15	**<1**	2	4
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**3**	11	20
Barium	ppm	ASTM D5185m	0	**0**	0	2
Molybdenum	ppm	ASTM D5185m	60	**51**	56	70
Manganese	ppm	ASTM D5185m	0	**1**	1	3
Magnesium	ppm	ASTM D5185m	1010	**795**	755	785
Calcium	ppm	ASTM D5185m	1070	**1042**	1010	1311
Phosphorus	ppm	ASTM D5185m	1150	**859**	834	919
Zinc	ppm	ASTM D5185m	1270	**1122**	1031	1177
Sulfur	ppm	ASTM D5185m	2060	**2871**	2534	2304

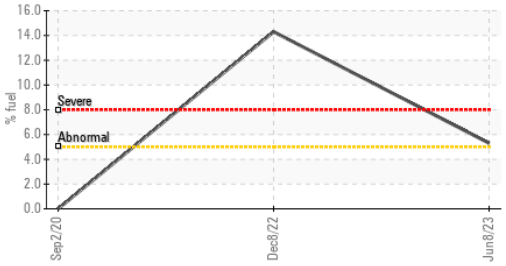
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**8**	9	17
Sodium	ppm	ASTM D5185m		**7**	4	10
Potassium	ppm	ASTM D5185m	>20	**3**	<1	1
Fuel	%	ASTM D3524	>5	▲ **5.3**	⬢ 14.3	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**2.2**	1.9	▲ 3.9
Nitration	Abs/cm	*ASTM D7624	>20	**12.3**	12.7	15.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.4**	23.5	29.8

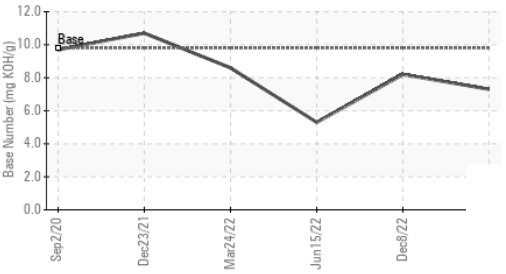
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**20.4**	19.7	21.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.3**	8.2	5.3

OIL ANALYSIS REPORT

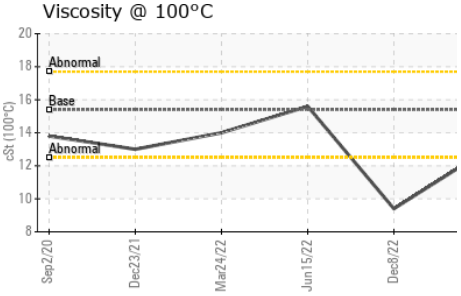
Fuel Dilution



Base Number



Viscosity @ 100°C

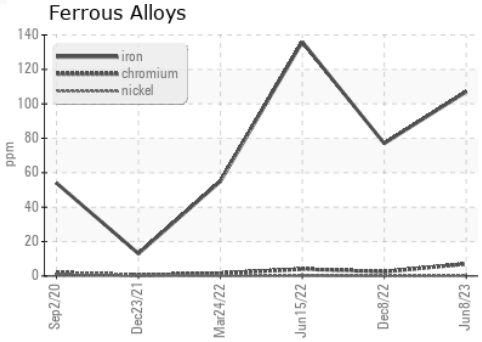


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

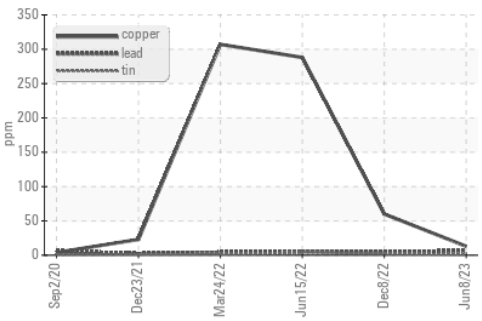
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**12.7**	▲ 9.4	15.6

GRAPHS

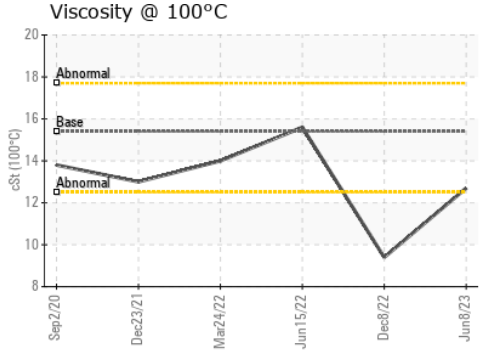
Ferrous Alloys



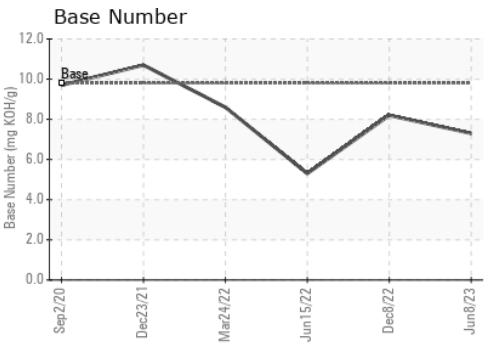
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0082202
Lab Number : 05871837
Unique Number : 10511621
Test Package : FLEET (Additional Tests: PercentFuel)

Received : 13 Jun 2023
Diagnosed : 14 Jun 2023
Diagnostician : Wes Davis

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)

GFL Environmental - 015 - Columbia
7800 Farrow Road
Columbia, SC
US 29203-3219
Contact: NOEL MATTHEWS
nmatthewsjr@gflenv.com
T: (803)935-0249
F: (803)935-0244