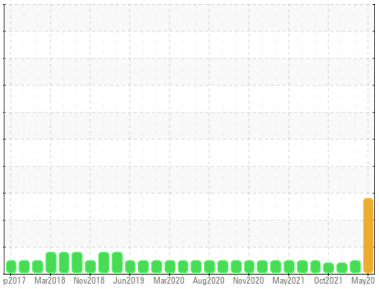
PROBLEM SUMMARY

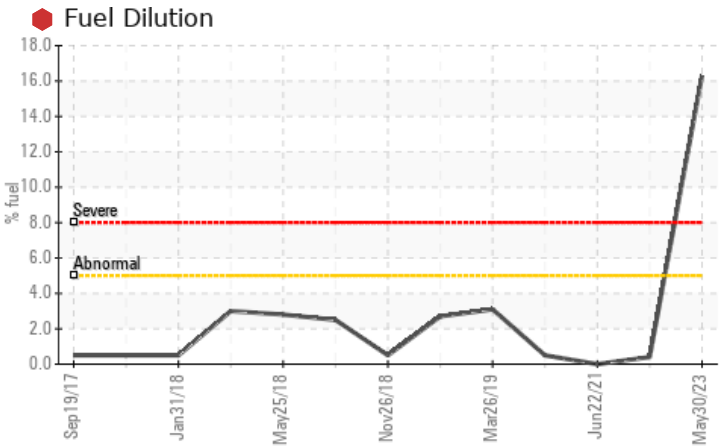
Sample Rating Trend

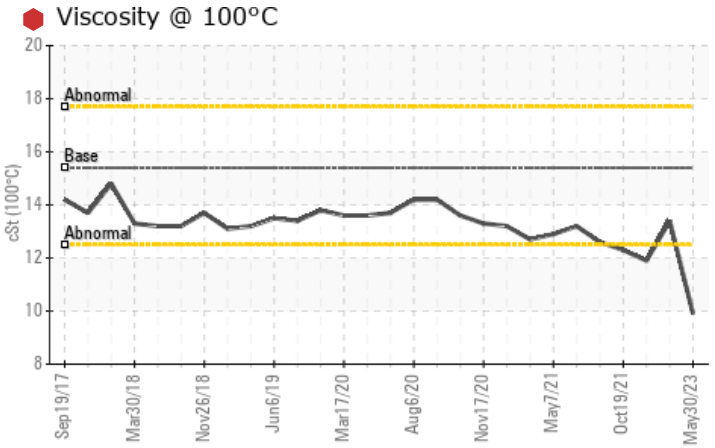


FUEL

Machine Id
10800
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (11 GAL)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check the fuel injection system. 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				SEVERE	NORMAL	ATTENTION
Fuel	%	ASTM D3524	>5	**16.3**	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	15.4	**9.9**	13.4	11.9

Customer Id: GFL094
Sample No.: GFL0072184
Lab Number: 05862786
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	MISSED	Aug 15 2023	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	DONE	Aug 18 2023	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

13 Dec 2022 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.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

26 Nov 2021 Diag: Jonathan Hester

VISCOSITY

No corrective action is recommended at this time. 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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

19 Oct 2021 Diag: Jonathan Hester

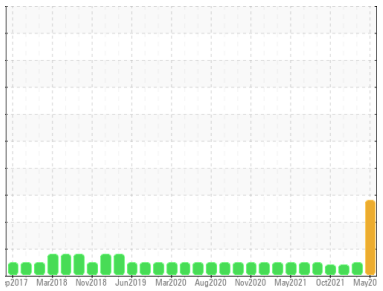
VISCOSITY

No corrective action is recommended at this time. 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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
10800
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (11 GAL)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. The oil 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. 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		**GFL0072184**	GFL0034211	GFL0035798
Sample Date		Client Info		**30 May 2023**	13 Dec 2022	26 Nov 2021
Machine Age	hrs	Client Info		**16083**	16083	14368
Oil Age	hrs	Client Info		**600**	600	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**SEVERE**	NORMAL	ATTENTION

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	**14**	11	17
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**1**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	<1
Silver	ppm	ASTM D5185m	>3	**<1**	<1	0
Aluminum	ppm	ASTM D5185m	>20	**5**	3	<1
Lead	ppm	ASTM D5185m	>40	**<1**	0	0
Copper	ppm	ASTM D5185m	>330	**2**	<1	<1
Tin	ppm	ASTM D5185m	>15	**<1**	0	<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	**6**	7	10
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**55**	63	63
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**789**	840	931
Calcium	ppm	ASTM D5185m	1070	**930**	1117	1150
Phosphorus	ppm	ASTM D5185m	1150	**867**	961	1064
Zinc	ppm	ASTM D5185m	1270	**1093**	1164	1184
Sulfur	ppm	ASTM D5185m	2060	**2564**	3346	2540

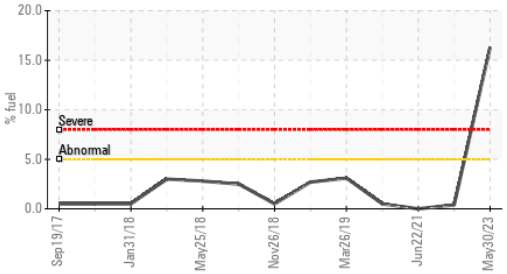
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**8**	11	6
Sodium	ppm	ASTM D5185m		**4**	2	4
Potassium	ppm	ASTM D5185m	>20	**19**	2	2
Fuel	%	ASTM D3524	>5	**16.3**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.4**	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**9.6**	9.3	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**18.9**	20.9	19.6

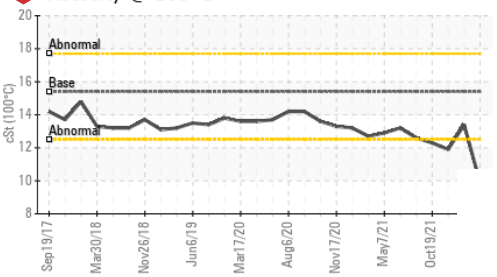
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.4**	17.6	15.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.4**	9.9	9

OIL ANALYSIS REPORT

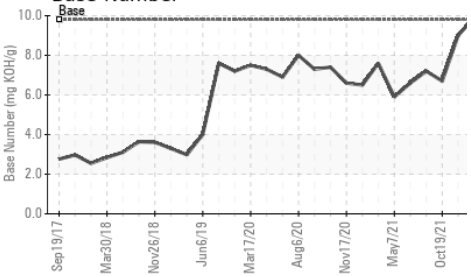
Fuel Dilution



Viscosity @ 100°C



Base Number

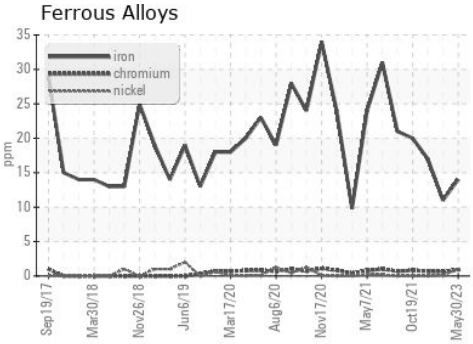


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

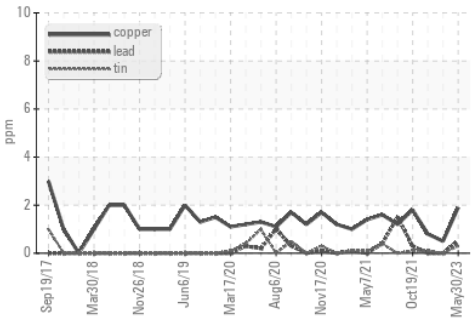
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**9.9**	13.4	11.9

GRAPHS

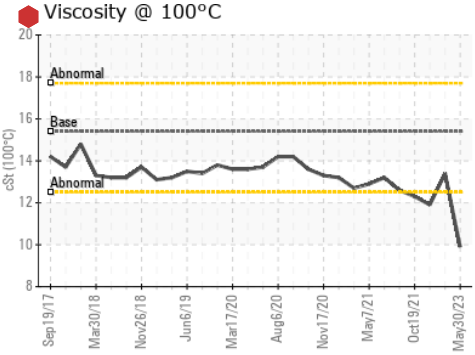
Ferrous Alloys



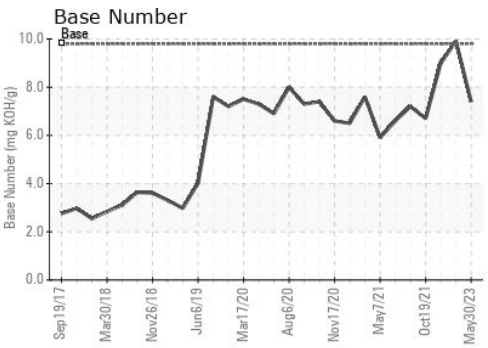
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0072184 **Received** : 02 Jun 2023
Lab Number : 05862786 **Diagnosed** : 05 Jun 2023
Unique Number : 10497251 **Diagnostician** : Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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 - 094 - Cedartown
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US 30125
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Report Id: GFL094 [WUSCAR] 05862786 (Generated: 08/18/2023 13:49:13) Rev: 1

Submitted By: Darrell Welch