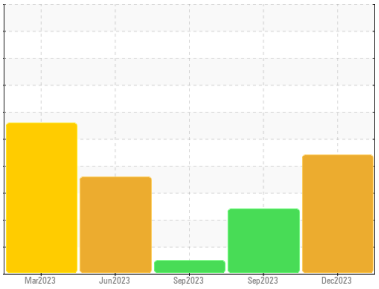
PROBLEM SUMMARY

Sample Rating Trend

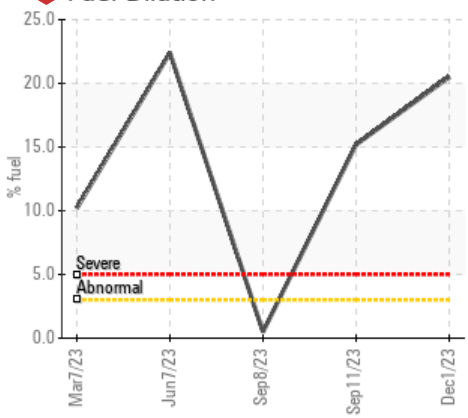


FUEL

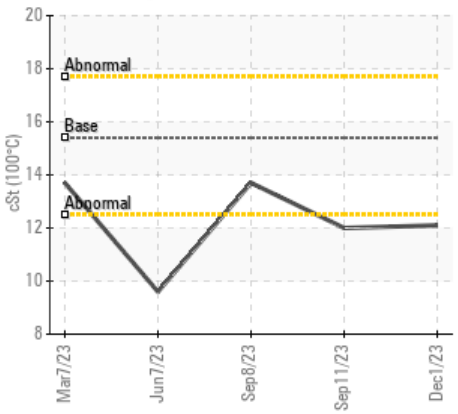
Machine Id
725078
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

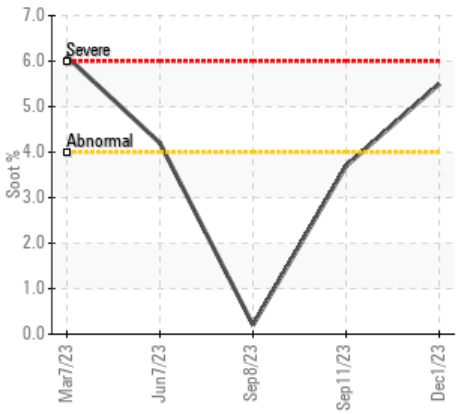
Fuel Dilution



Viscosity @ 100°C



Soot %



RECOMMENDATION

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 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.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	NORMAL
Fuel	%	ASTM D3524	>3.0	**20.5**	15.2	0.5
Soot %	%	*ASTM D7844	>4	**5.5**	3.7	0.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**0.0**	8.5	8.8
Visc @ 100°C	cSt	ASTM D445	15.4	**12.1**	12.0	13.7

Customer Id: GFL408
Sample No.: GFL0086920
Lab Number: 06028519
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	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Alert	---	---	?	NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.
Check Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

11 Sep 2023 Diag: Wes Davis

FUEL

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.All component wear rates are normal. There is a high 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. 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

08 Sep 2023 Diag: Wes Davis

NORMAL

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

07 Jun 2023 Diag: Wes Davis

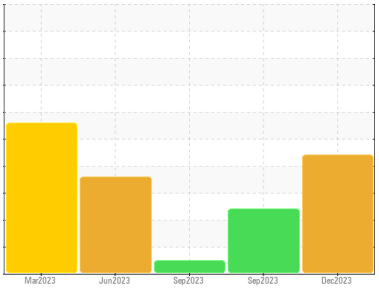
FUEL

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been 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. Light concentration of carbon/soot 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. 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

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
725078
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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 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.

Wear

All component wear rates are normal.

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0086920**	GFL0086931	GFL0086933
Sample Date		Client Info		**01 Dec 2023**	11 Sep 2023	08 Sep 2023
Machine Age	hrs	Client Info		**9800**	9578	9555
Oil Age	hrs	Client Info		**222**	600	400
Oil Changed		Client Info		**N/A**	Changed	Not Changd
Sample Status				**SEVERE**	SEVERE	NORMAL

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	**22**	25	8
Chromium	ppm	ASTM D5185m	>20	**<1**	1	0
Nickel	ppm	ASTM D5185m	>5	**0**	0	0
Titanium	ppm	ASTM D5185m	>2	**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**1**	3	<1
Lead	ppm	ASTM D5185m	>40	**0**	1	2
Copper	ppm	ASTM D5185m	>330	**2**	2	<1
Tin	ppm	ASTM D5185m	>15	**0**	<1	<1
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	**2**	3	4
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**48**	54	62
Manganese	ppm	ASTM D5185m	0	**0**	<1	0
Magnesium	ppm	ASTM D5185m	1010	**776**	893	1036
Calcium	ppm	ASTM D5185m	1070	**768**	1033	1224
Phosphorus	ppm	ASTM D5185m	1150	**733**	908	1052
Zinc	ppm	ASTM D5185m	1270	**921**	1129	1308
Sulfur	ppm	ASTM D5185m	2060	**2350**	3297	3840

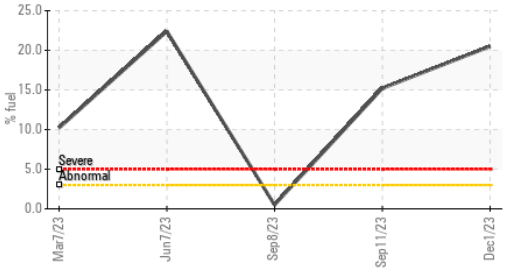
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	6	3
Sodium	ppm	ASTM D5185m		**2**	2	<1
Potassium	ppm	ASTM D5185m	>20	**0**	3	<1
Fuel	%	ASTM D3524	>3.0	**20.5**	15.2	0.5

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**5.5**	3.7	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**17.6**	10.3	5.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**35.5**	22.4	17.2

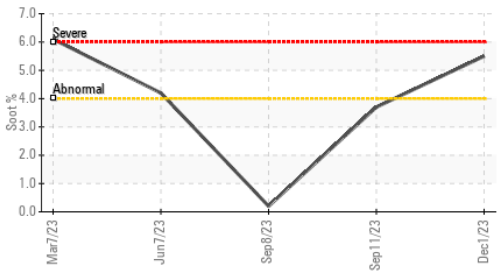
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**27.2**	12.4	13.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**0.0**	8.5	8.8

OIL ANALYSIS REPORT

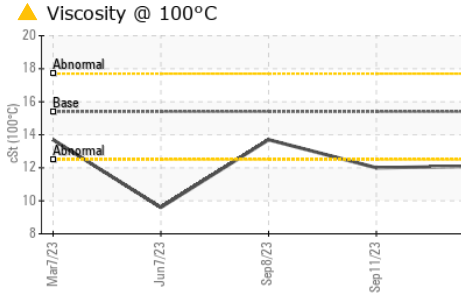
Fuel Dilution



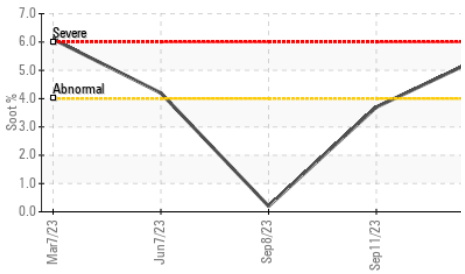
Soot %



Viscosity @ 100°C



Soot %

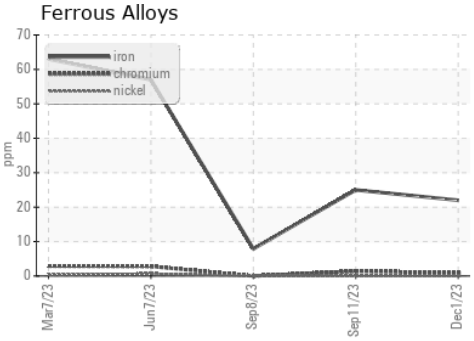


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

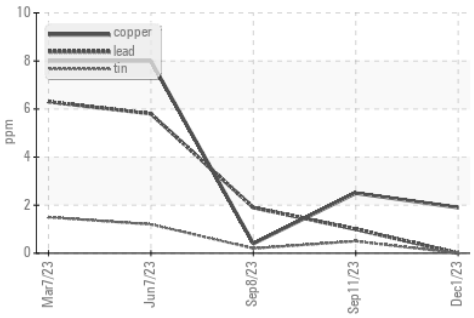
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.1**	▲ 12.0	13.7

GRAPHS

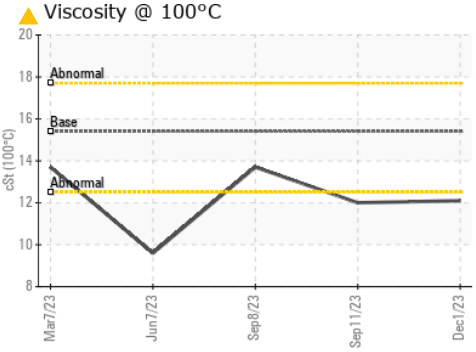
Ferrous Alloys



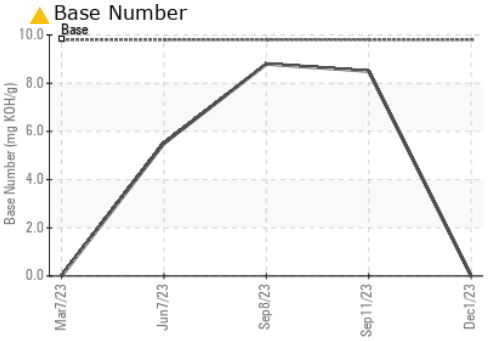
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0086920
Lab Number : 06028519
Unique Number : 10778310
Test Package : FLEET (Additional Tests: PercentFuel)

Recieved : 07 Dec 2023
Diagnosed : 15 Dec 2023
Diagnostician : Jonathan Hester

GFL Environmental - 408 - Brown City
4235 M-53
BROWN CITY, MI
US 48416
Contact: MARK WOMBLE
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)

Report Id: GFL408 [WUSCAR] 06028519 (Generated: 12/15/2023 16:21:44) Rev: 1

Submitted By: WILLIAM DEOLA