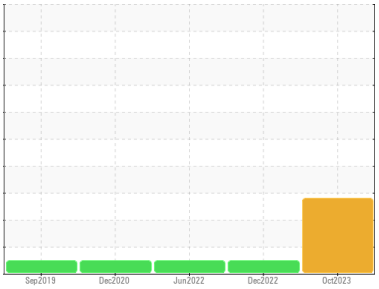
PROBLEM SUMMARY

Machine Id
921042-205212
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

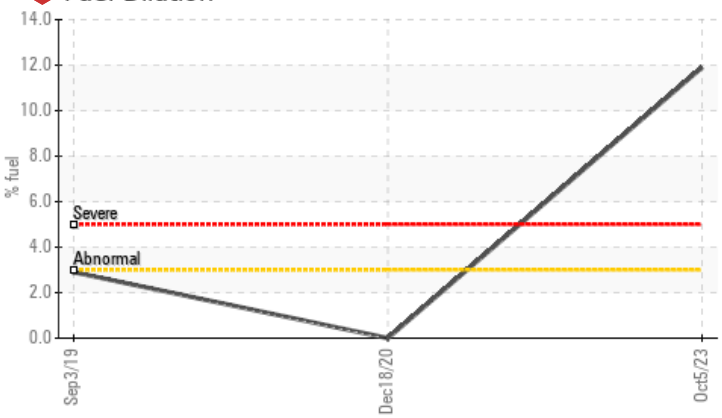
Sample Rating Trend



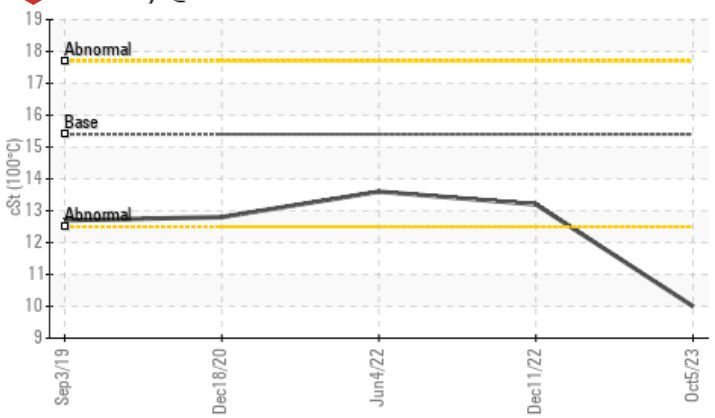
FUEL

COMPONENT CONDITION SUMMARY

Fuel Dilution



Viscosity @ 100°C



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	NORMAL
Fuel	%	ASTM D3524	>3.0	**11.9**	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	15.4	**10.0**	13.2	13.6

Customer Id: GFL821
Sample No.: GFL0090149
Lab Number: 05972508
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.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

11 Dec 2022 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with 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

04 Jun 2022 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with 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

18 Dec 2020 Diag: Wes Davis

NORMAL

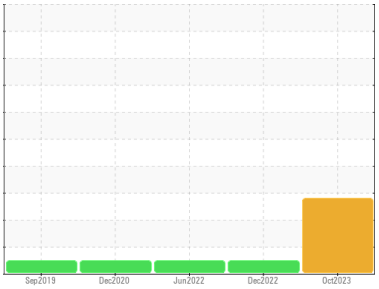
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Machine Id
921042-205212
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



FUEL

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		**GFL0090149**	GFL0051389	GFL0051959
Sample Date		Client Info		**05 Oct 2023**	11 Dec 2022	04 Jun 2022
Machine Age	hrs	Client Info		**23232**	23001	22495
Oil Age	hrs	Client Info		**600**	600	700
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL

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	>120	**27**	7	6
Chromium	ppm	ASTM D5185m	>20	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>5	**0**	0	1
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**8**	1	3
Lead	ppm	ASTM D5185m	>40	**<1**	0	<1
Copper	ppm	ASTM D5185m	>330	**3**	<1	1
Tin	ppm	ASTM D5185m	>15	**0**	0	<1
Antimony	ppm	ASTM D5185m		**---**	---	---
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**5**	1	3
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**52**	58	58
Manganese	ppm	ASTM D5185m	0	**<1**	0	<1
Magnesium	ppm	ASTM D5185m	1010	**786**	846	865
Calcium	ppm	ASTM D5185m	1070	**854**	1027	1034
Phosphorus	ppm	ASTM D5185m	1150	**859**	953	993
Zinc	ppm	ASTM D5185m	1270	**1064**	1122	1225
Sulfur	ppm	ASTM D5185m	2060	**2923**	3422	2975

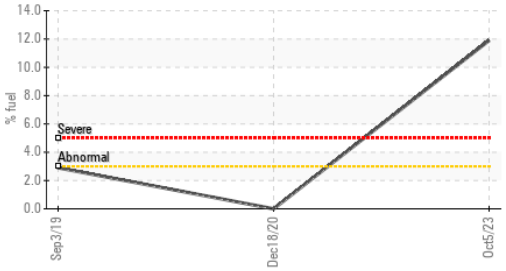
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**9**	2	3
Sodium	ppm	ASTM D5185m		**41**	34	12
Potassium	ppm	ASTM D5185m	>20	**7**	3	2
Fuel	%	ASTM D3524	>3.0	**11.9**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.9**	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**7.7**	9.5	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.1**	19.8	17.7

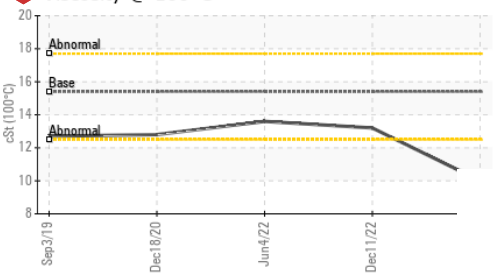
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.5**	16.1	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.7**	8.1	8.4

OIL ANALYSIS REPORT

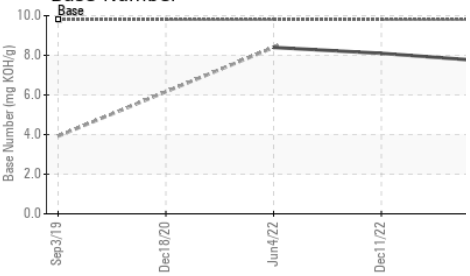
Fuel Dilution



Viscosity @ 100°C



Base Number

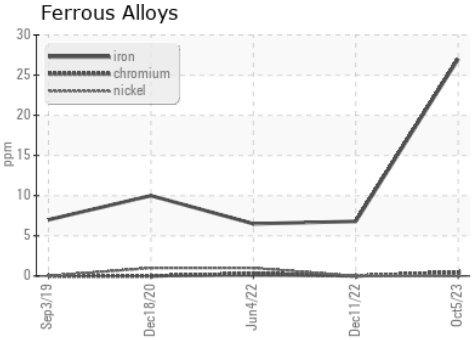


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

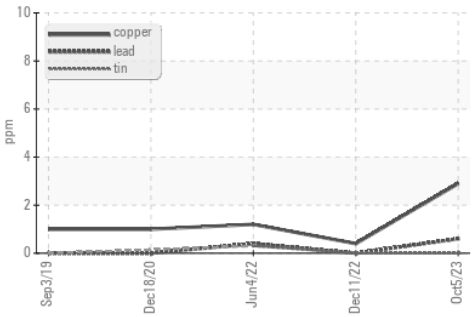
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**10.0**	13.2	13.6

GRAPHS

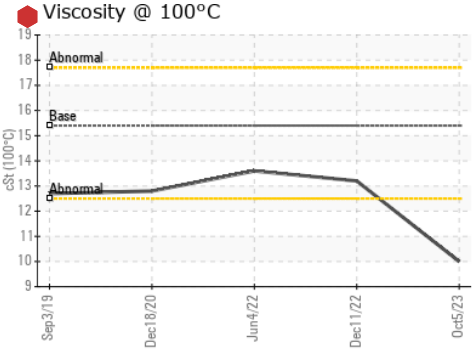
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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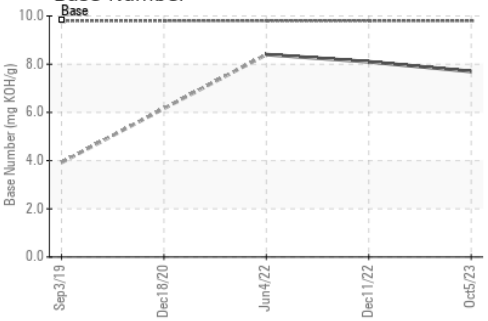

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0090149
Lab Number : 05972508
Unique Number : 10684458
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 09 Oct 2023
Diagnosed : 10 Oct 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 - 821 - Ozarks Hauling
33924 Olath Drive
Lebanon, MO
US 65536
Contact: Landen Johnson
landen.johnson@gflenv.com
T: (417)664-0010
F:

Report Id: GFL821 [WUSCAR] 05972508 (Generated: 10/18/2023 13:12:29) Rev: 1

Submitted By: GFL821, GFL824 and GFL829 - Landen Johnson