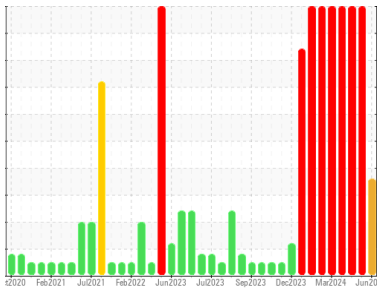
PROBLEM SUMMARY

Sample Rating Trend

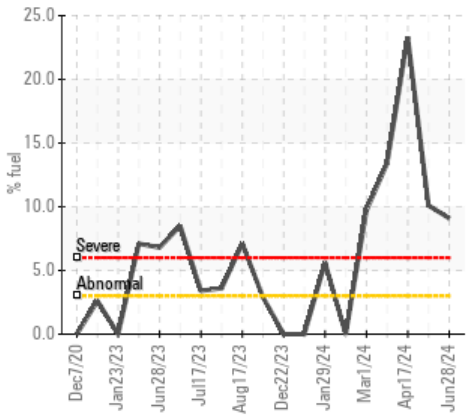


FUEL

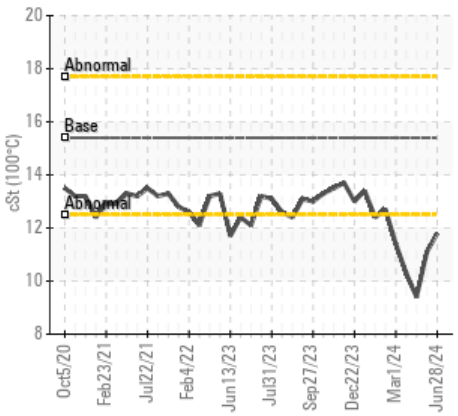
Machine Id
810029
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (28 QTS)

COMPONENT CONDITION SUMMARY

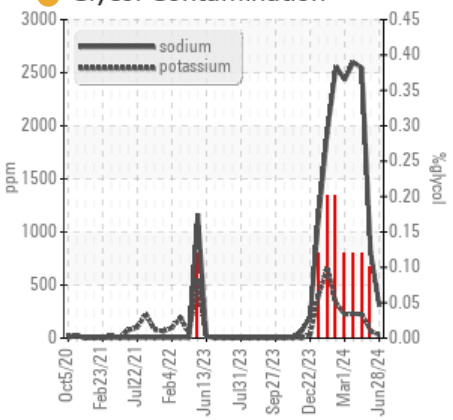
▲ Fuel Dilution



▲ Viscosity @ 100°C



● Glycol Contamination



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. 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**	SEVERE	SEVERE
Fuel	%	ASTM D3524	>3.0	▲ **9.1**	▲ 10.1	▲ 23.3
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.8**	▲ 11.1	▲ 9.4

Customer Id: GFL073
Sample No.: GFL0111426
Lab Number: 06227078
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
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

GLYCOL

20 May 2024 Diag: Wes Davis

We advise that you check the fuel injection system. We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition.All component wear rates are normal. Test for glycol is positive. There is a high amount of fuel present in the oil. There is a high concentration of glycol 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

GLYCOL

17 Apr 2024 Diag: Jonathan Hester

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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. Sodium and/or potassium levels remain high. There is a high concentration of glycol present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a high amount of fuel present 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

GLYCOL

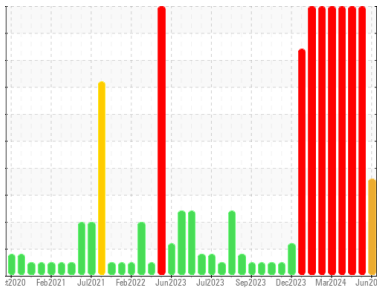
19 Mar 2024 Diag: Jonathan Hester

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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. Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a high amount of fuel present 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
810029
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (28 QTS)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Check for low coolant level. 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
Sodium and/or potassium levels remain high. 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 BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0111426**	GFL0111413	GFL0111486
Sample Date		Client Info		**28 Jun 2024**	20 May 2024	17 Apr 2024
Machine Age	hrs	Client Info		**20680**	10302	10212
Oil Age	hrs	Client Info		**10468**	90	520
Oil Changed		Client Info		**Changed**	Not Changd	Changed
Sample Status				**SEVERE**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	**11**	15	50
Chromium	ppm	ASTM D5185m	>5	**<1**	<1	2
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>15	**3**	3	8
Lead	ppm	ASTM D5185m	>25	**0**	0	<1
Copper	ppm	ASTM D5185m	>100	**<1**	<1	3
Tin	ppm	ASTM D5185m	>4	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**9**	18	48
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**61**	80	127
Manganese	ppm	ASTM D5185m	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**811**	860	601
Calcium	ppm	ASTM D5185m	1070	**908**	975	746
Phosphorus	ppm	ASTM D5185m	1150	**854**	908	586
Zinc	ppm	ASTM D5185m	1270	**1068**	1158	843
Sulfur	ppm	ASTM D5185m	2060	**2423**	3261	2428

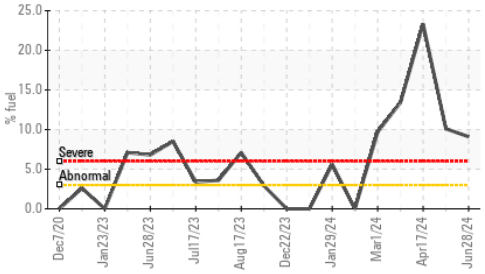
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**9**	16	45
Sodium	ppm	ASTM D5185m		**302**	808	2543
Potassium	ppm	ASTM D5185m	>20	**28**	69	225
Fuel	%	ASTM D3524	>3.0	**9.1**	10.1	23.3
Glycol	%	*ASTM D2982		**NEG**	0.10	0.12

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.4**	0.6	1.3
Nitration	Abs/cm	*ASTM D7624	>20	**8.8**	10.2	16.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.1**	19.3	24.3

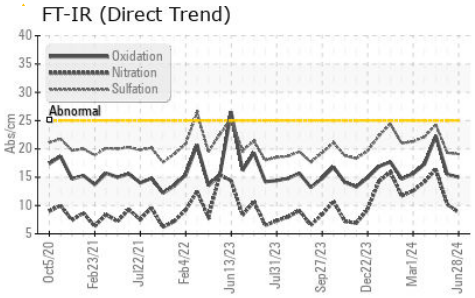
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.0**	15.5	22.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.3**	9.7	11.1

OIL ANALYSIS REPORT

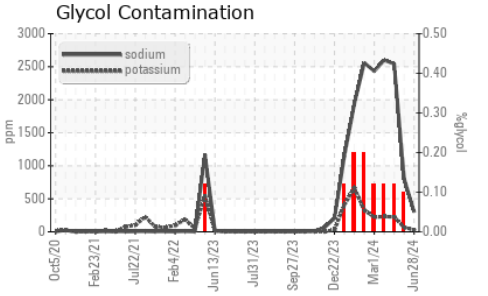
Fuel Dilution



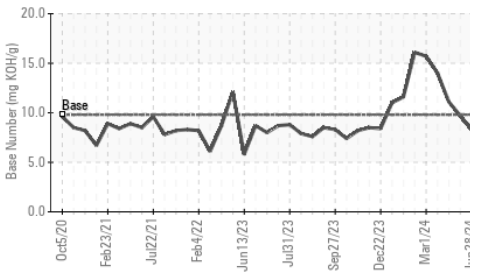
FT-IR (Direct Trend)



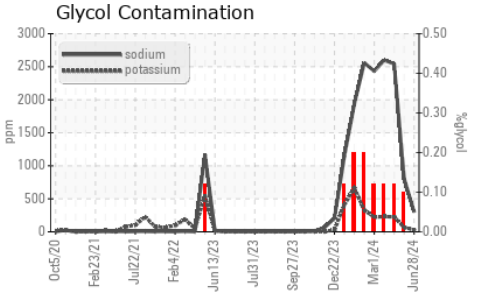
Glycol Contamination



Base Number



Glycol Contamination

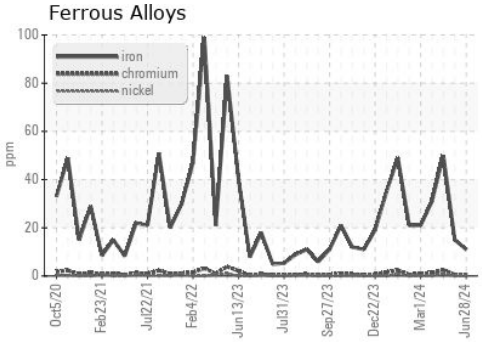


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

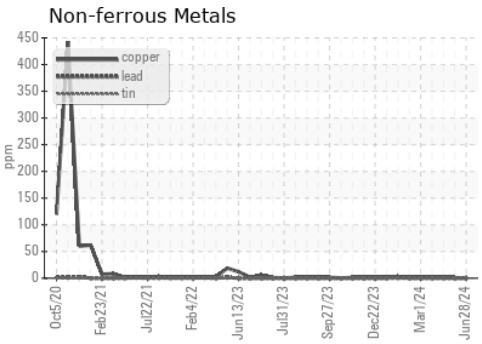
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.8**	▲ 11.1	▲ 9.4

GRAPHS

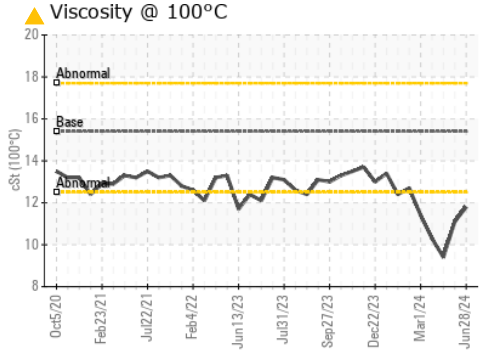
Ferrous Alloys



Non-ferrous Metals



▲ Viscosity @ 100°C



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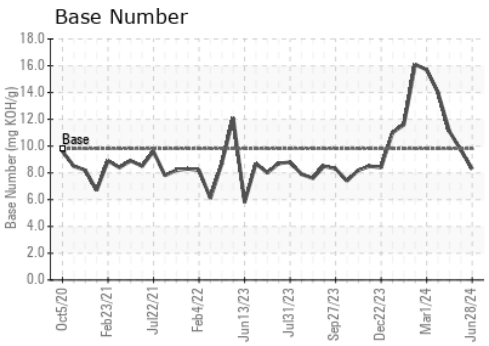

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0111426
Lab Number : 06227078
Unique Number : 11110571
Test Package : FLEET (Additional Tests: PercentFuel)

Received : 03 Jul 2024
Tested : 08 Jul 2024
Diagnosed : 08 Jul 2024 - Jonathan Hester

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 - 073 - Warner Robins - Transwaste
155 Story Road
Warner Robins, GA
US 31093
Contact: JOSH MALONEY
jmaloney@gflenv.com
T:
F:

Report Id: GFL073 [WUSCAR] 06227078 (Generated: 07/09/2024 22:09:36) Rev: 1

Submitted By: JOSH MALONEY