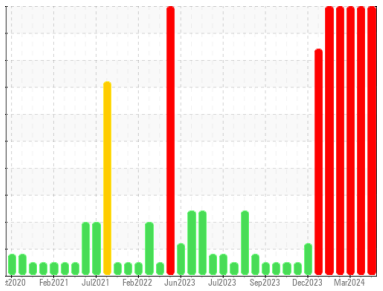
PROBLEM SUMMARY

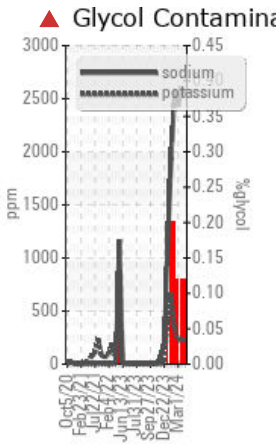
Sample Rating Trend

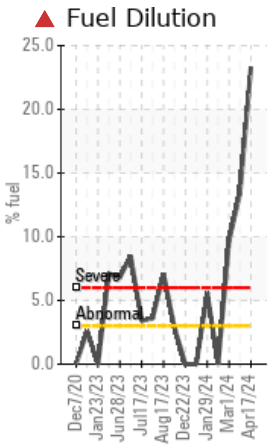


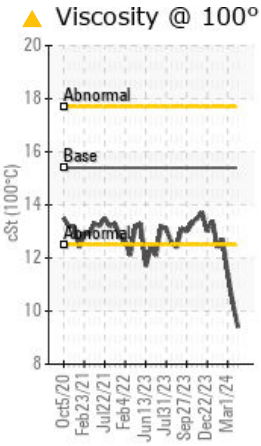
GLYCOL

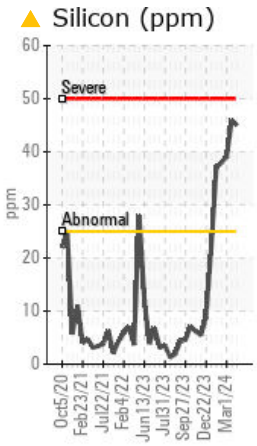
Machine Id
810029
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (28 QTS)

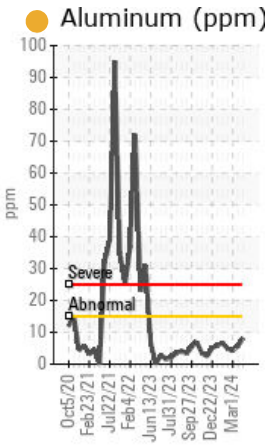
COMPONENT CONDITION SUMMARY











RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Silicon	ppm	ASTM D5185m	>25	▲ **45**	▲ 46	▲ 39
Sodium	ppm	ASTM D5185m		▲ **2543**	▲ 2599	▲ 2433
Potassium	ppm	ASTM D5185m	>20	▲ **225**	▲ 230	▲ 223
Fuel	%	ASTM D3524	>3.0	▲ **23.3**	▲ 13.4	▲ 9.7
Glycol	%	*ASTM D2982		▲ **0.12**	▲ 0.12	▲ 0.12
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.4**	▲ 10.3	▲ 11.4

Customer Id: GFL073
Sample No.: GFL0111486
Lab Number: 06155045
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 Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
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

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

GLYCOL

01 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

GLYCOL

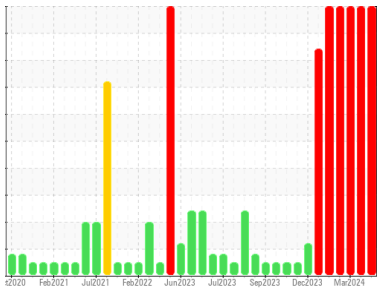
08 Feb 2024 Diag: Jonathan Hester

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 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. 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

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

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 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.

Wear
All component wear rates are normal.

Contamination
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.

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		**GFL0111486**	GFL0068809	GFL0068841
Sample Date		Client Info		**17 Apr 2024**	19 Mar 2024	01 Mar 2024
Machine Age	hrs	Client Info		**10212**	10045	9908
Oil Age	hrs	Client Info		**520**	353	216
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
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	**50**	31	21
Chromium	ppm	ASTM D5185m	>5	**2**	1	<1
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	0
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>15	**8**	6	4
Lead	ppm	ASTM D5185m	>25	**<1**	<1	0
Copper	ppm	ASTM D5185m	>100	**3**	2	2
Tin	ppm	ASTM D5185m	>4	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**48**	67	69
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**127**	139	137
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**601**	701	809
Calcium	ppm	ASTM D5185m	1070	**746**	847	899
Phosphorus	ppm	ASTM D5185m	1150	**586**	680	864
Zinc	ppm	ASTM D5185m	1270	**843**	979	1019
Sulfur	ppm	ASTM D5185m	2060	**2428**	2434	2818

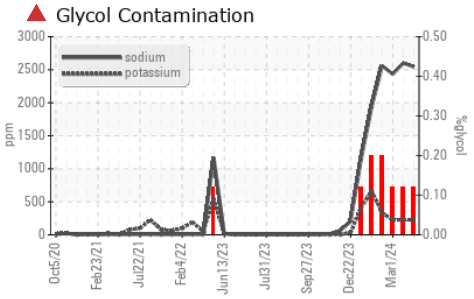
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**45**	46	39
Sodium	ppm	ASTM D5185m		**2543**	2599	2433
Potassium	ppm	ASTM D5185m	>20	**225**	230	223
Fuel	%	ASTM D3524	>3.0	**23.3**	13.4	9.7
Glycol	%	*ASTM D2982		**0.12**	0.12	0.12

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**1.3**	1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	**16.4**	14.2	12.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.3**	22.1	21.3

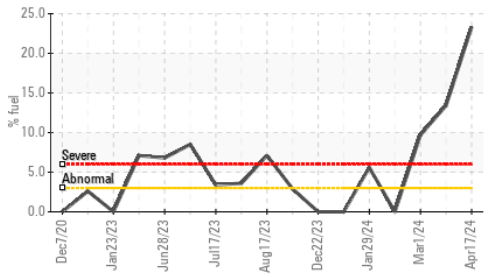
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.3**	17.3	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**11.1**	14.0	15.7

OIL ANALYSIS REPORT

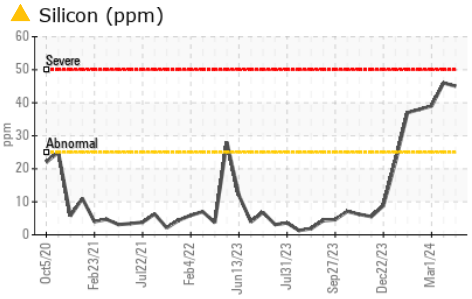
Glycol Contamination



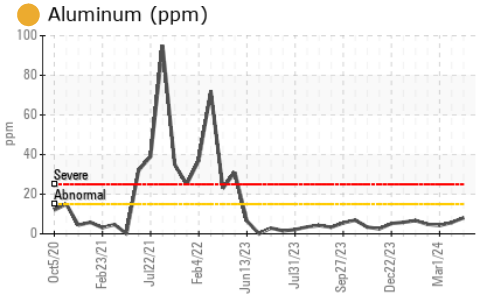
Fuel Dilution



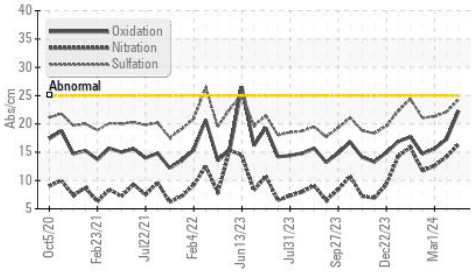
Silicon (ppm)



Aluminum (ppm)



FT-IR (Direct Trend)

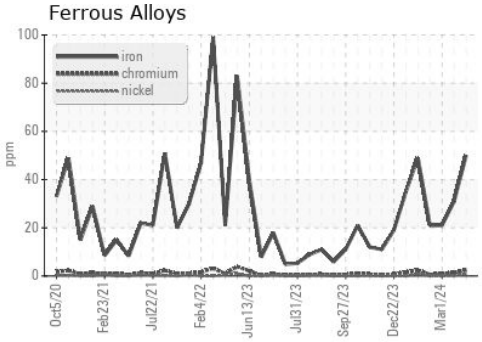


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

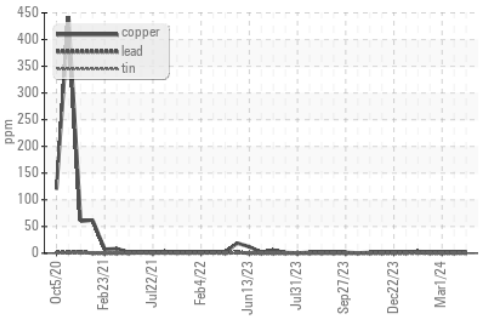
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **9.4**	▲ 10.3	▲ 11.4

GRAPHS

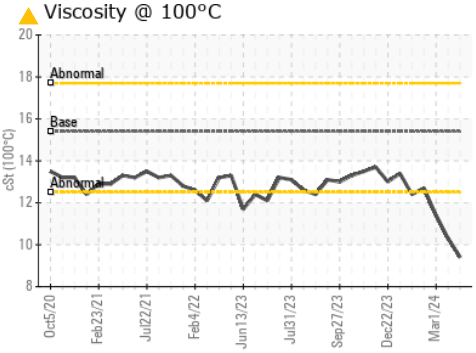
Ferrous Alloys



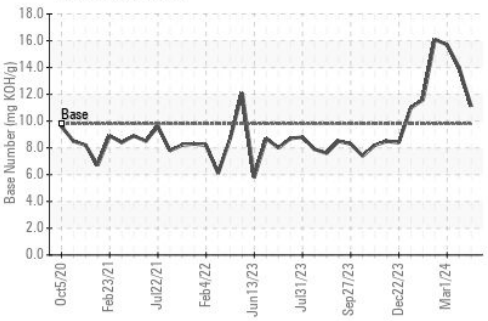
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0111486
Lab Number : 06155045
Unique Number : 10990468
Test Package : FLEET (Additional Tests: PercentFuel)

Received : 19 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 24 Apr 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] 06155045 (Generated: 04/24/2024 09:27:29) Rev: 1

Submitted By: JOSH MALONEY