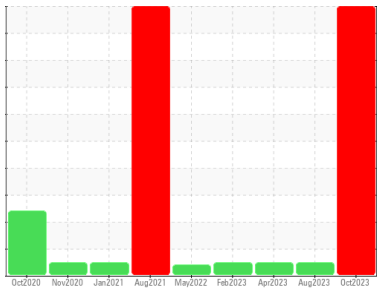
PROBLEM SUMMARY

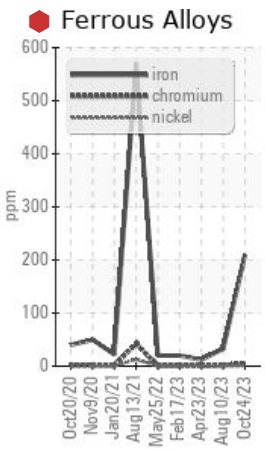
Sample Rating Trend

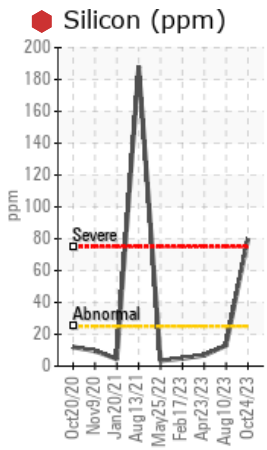


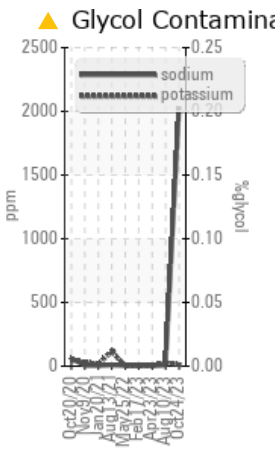
WEAR

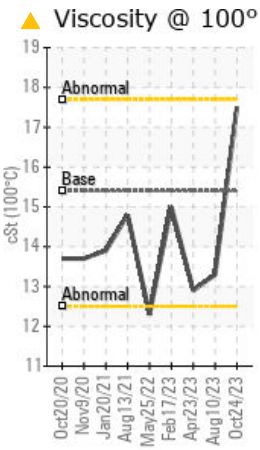
Machine Id
910041
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (8 GAL)

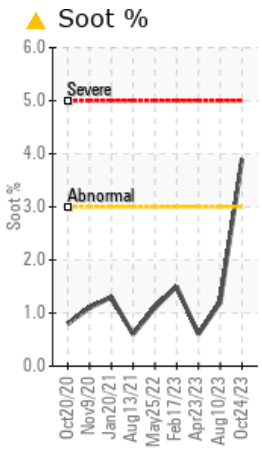
COMPONENT CONDITION SUMMARY











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 for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	**210**	33	12
Aluminum	ppm	ASTM D5185m	>20	**10**	13	0
Silicon	ppm	ASTM D5185m	>25	**80**	13	7
Sodium	ppm	ASTM D5185m		**2031**	6	2
Soot %	%	*ASTM D7844	>3	**3.9**	1.2	0.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**0.0**	5.8	7.8
Visc @ 100°C	cSt	ASTM D445	15.4	**17.5**	13.3	12.9

Customer Id: GFL072
Sample No.: GFL0097228
Lab Number: 05994066
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 Filter	---	---	?	We recommend you service the filters on this component.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

10 Aug 2023 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

23 Apr 2023 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

17 Feb 2023 Diag: Don Baldridge

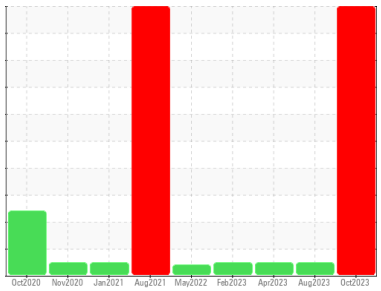
NORMAL

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

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
910041
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (8 GAL)

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 for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear
Cylinder, crank, or cam shaft wear is indicated.

Contamination
Sodium and/or potassium levels are high. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is an abnormal amount of solids and carbon present in the oil.

Fluid Condition
The oil viscosity is higher than normal. The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0097228**	GFL0083035	GFL0071349
Sample Date		Client Info		**24 Oct 2023**	10 Aug 2023	23 Apr 2023
Machine Age	days	Client Info		**0**	0	0
Oil Age	days	Client Info		**0**	0	0
Oil Changed		Client Info		**Not Changd**	Not Changd	N/A
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**210**	33	12
Chromium	ppm	ASTM D5185m	>20	**4**	2	<1
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**10**	13	0
Lead	ppm	ASTM D5185m	>40	**2**	<1	0
Copper	ppm	ASTM D5185m	>330	**7**	2	2
Tin	ppm	ASTM D5185m	>15	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**83**	20	41
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**139**	91	65
Manganese	ppm	ASTM D5185m	0	**1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**870**	1035	746
Calcium	ppm	ASTM D5185m	1070	**1019**	1426	1056
Phosphorus	ppm	ASTM D5185m	1150	**1040**	1154	851
Zinc	ppm	ASTM D5185m	1270	**1137**	1406	1039
Sulfur	ppm	ASTM D5185m	2060	**2710**	3304	2874

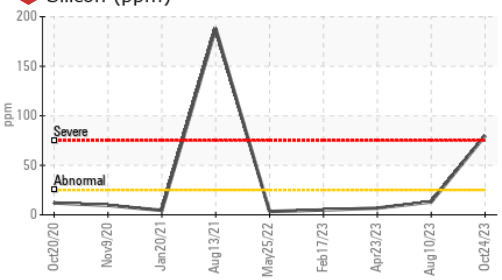
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**80**	13	7
Sodium	ppm	ASTM D5185m		**2031**	6	2
Potassium	ppm	ASTM D5185m	>20	**11**	26	6
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**3.9**	1.2	0.6
Nitration	Abs/cm	*ASTM D7624	>20	**5.3**	10.2	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**18.5**	23.0	19.9

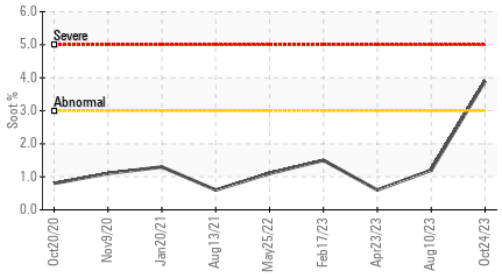
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**5.8**	17.6	14.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**0.0**	5.8	7.8

OIL ANALYSIS REPORT

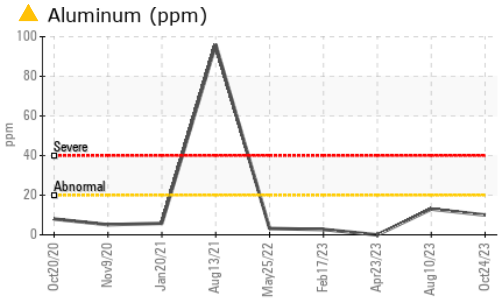
Silicon (ppm)



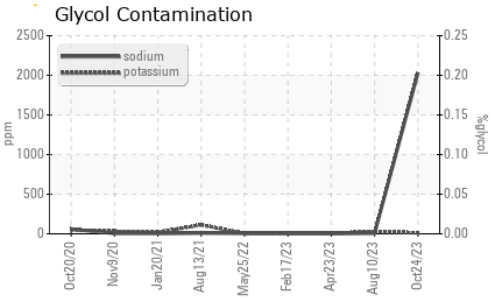
Soot %



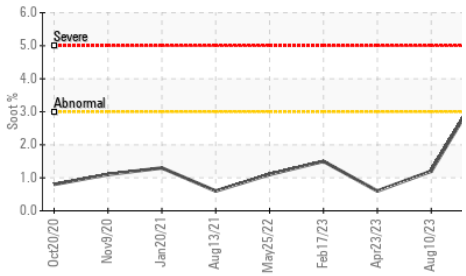
Aluminum (ppm)



Glycol Contamination



Soot %

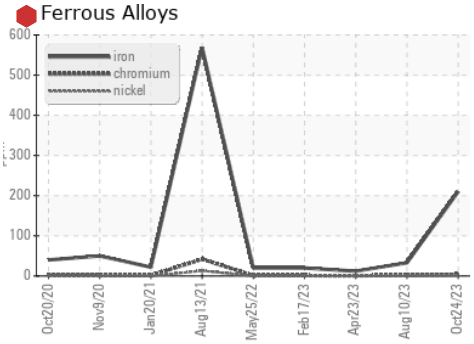


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

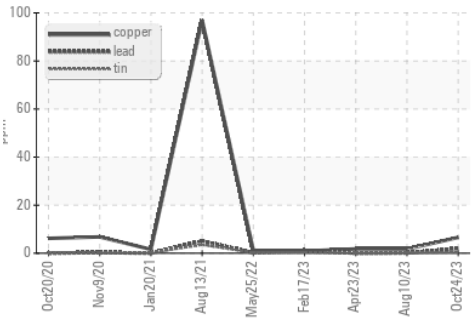
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **17.5**	13.3	12.9

GRAPHS

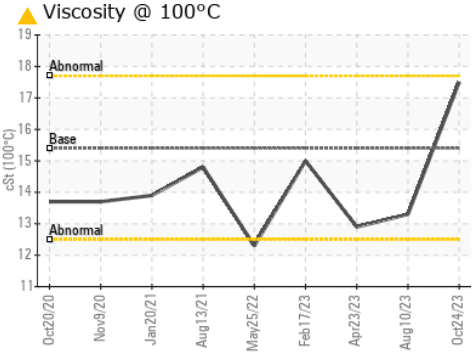
Ferrous Alloys



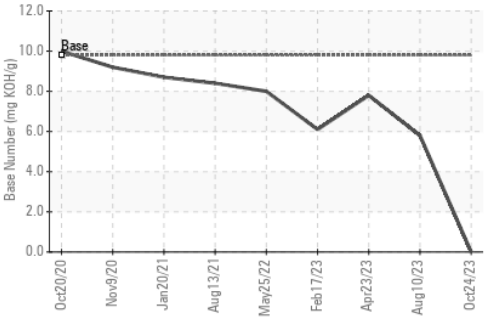
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0097228 **Received** : 31 Oct 2023
Lab Number : 05994066 **Diagnosed** : 03 Nov 2023
Unique Number : 10722426 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

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 - 072 - Americus - Transwaste
361 McMath Mill Road
Americus, GA
US 31719
Contact: RICHARD HEINZERLING
richard.heinzerling@gflenv.com
T: (229)924-3669
F:

Report Id: GFL072 [WUSCAR] 05994066 (Generated: 11/03/2023 13:09:08) Rev: 1

Submitted By: George Sawyer