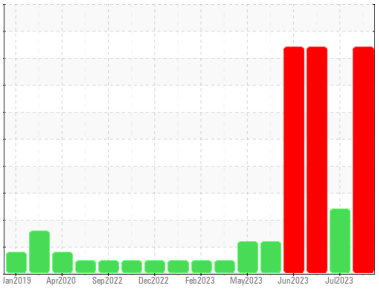
PROBLEM SUMMARY

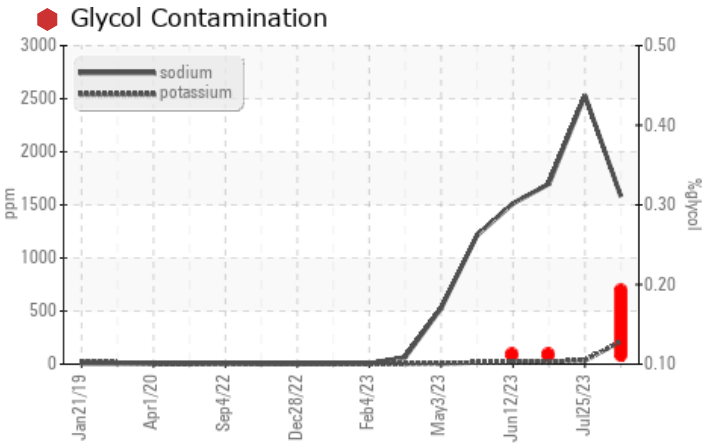
Sample Rating Trend



GLYCOL

Machine Id
726047-310048
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Sodium	ppm	ASTM D5185m		▲ **1580**	▲ 2530	▲ 1698
Potassium	ppm	ASTM D5185m	>20	▲ **214**	▲ 34	▲ 24
Glycol	%	*ASTM D2982		⬢ **0.20**	NEG	⬢ 0.12

Customer Id: GFL821
Sample No.: GFL0090205
Lab Number: 05970052
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	MISSED	Oct 18 2023	?	We recommend an early resample to monitor this condition.
Check Glycol Access	MISSED	Oct 18 2023	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

25 Jul 2023 Diag: Jonathan Hester

GLYCOL

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter 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 are high. 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

17 Jun 2023 Diag: Wes Davis

GLYCOL

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 concentration of glycol present in the oil. 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

12 Jun 2023 Diag: Wes Davis

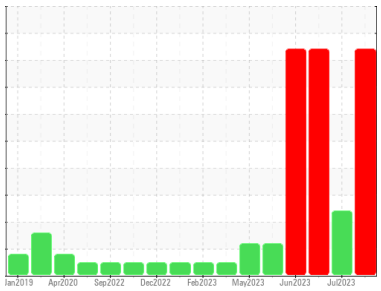
GLYCOL

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 concentration of glycol present in the oil. 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
726047-310048
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. Oil and filter 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
Test for glycol is positive. Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil.

Fluid Condition
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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0090205**	GFL0076771	GFL0065442
Sample Date		Client Info		**02 Oct 2023**	25 Jul 2023	17 Jun 2023
Machine Age	hrs	Client Info		**19751**	19209	18996
Oil Age	hrs	Client Info		**600**	600	150
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**SEVERE**	ABNORMAL	SEVERE

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	>110	**50**	53	35
Chromium	ppm	ASTM D5185m	>4	**4**	5	4
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>25	**8**	9	6
Lead	ppm	ASTM D5185m	>45	**2**	1	2
Copper	ppm	ASTM D5185m	>85	**2**	2	2
Tin	ppm	ASTM D5185m	>4	**<1**	0	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	<1
Barium	ppm	ASTM D5185m	0	**0**	0	5
Molybdenum	ppm	ASTM D5185m	60	**226**	308	223
Manganese	ppm	ASTM D5185m	0	**<1**	<1	1
Magnesium	ppm	ASTM D5185m	1010	**848**	979	931
Calcium	ppm	ASTM D5185m	1070	**995**	1172	1080
Phosphorus	ppm	ASTM D5185m	1150	**859**	911	908
Zinc	ppm	ASTM D5185m	1270	**1149**	1306	1230
Sulfur	ppm	ASTM D5185m	2060	**2930**	3913	3650

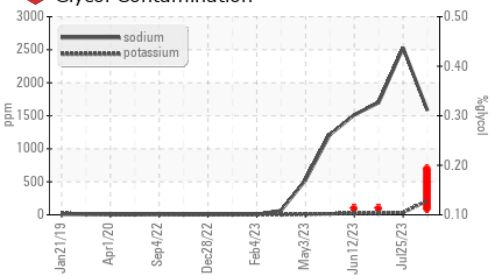
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**10**	10	8
Sodium	ppm	ASTM D5185m		▲ **1580**	▲ 2530	▲ 1698
Potassium	ppm	ASTM D5185m	>20	▲ **214**	▲ 34	▲ 24
Glycol	%	*ASTM D2982		⬢ **0.20**	NEG	⬢ 0.12

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**2.3**	1.4	0.8
Nitration	Abs/cm	*ASTM D7624	>20	**16.6**	17.1	14.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.5**	26.5	23.2

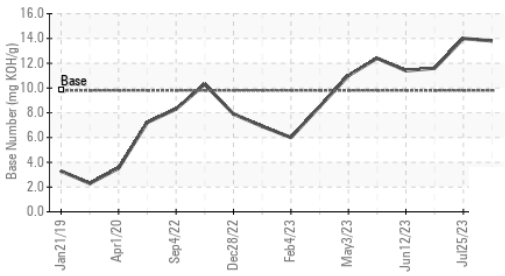
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**20.5**	21.6	18.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**13.8**	14.0	11.6

OIL ANALYSIS REPORT

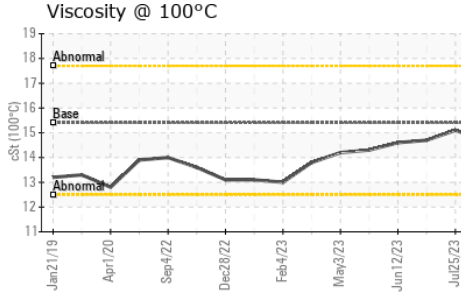
Glycol Contamination



Base Number



Viscosity @ 100°C

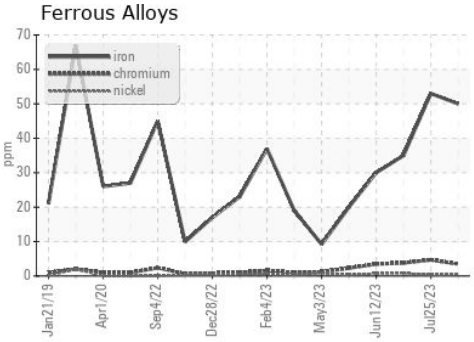


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

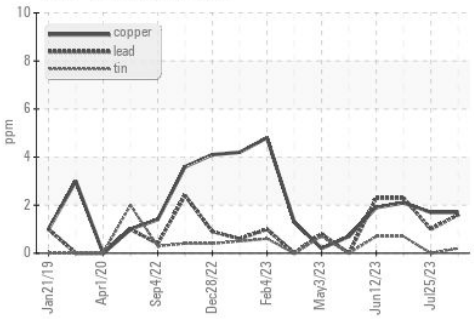
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**14.7**	15.1	14.7

GRAPHS

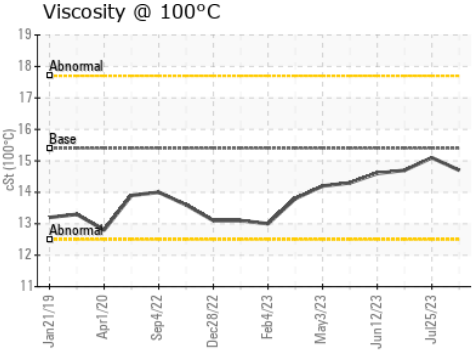
Ferrous Alloys



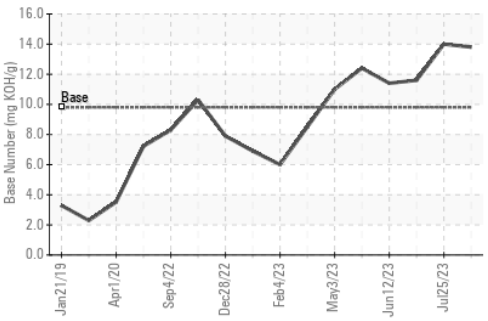
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0090205 **Received** : 05 Oct 2023
Lab Number : 05970052 **Diagnosed** : 12 Oct 2023
Unique Number : 10682002 **Diagnostician** : Doug Bogart
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 - 821 - Ozarks Hauling
33924 Olath Drive
Lebanon, MO
US 65536
Contact: Landen Johnson
landen.johnson@gflenv.com
T: (417)664-0010
F: