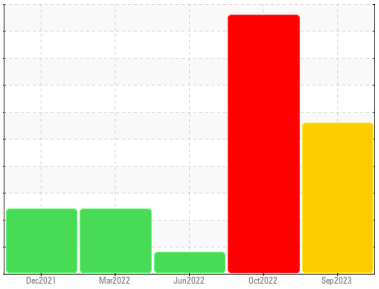
PROBLEM SUMMARY

Sample Rating Trend

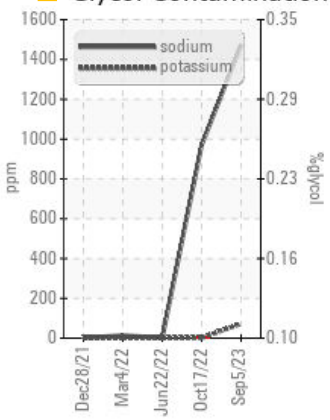


DIRT

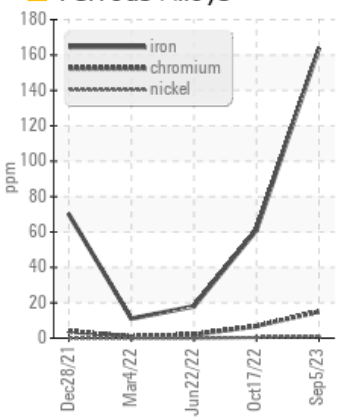
Machine Id
929024-540
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

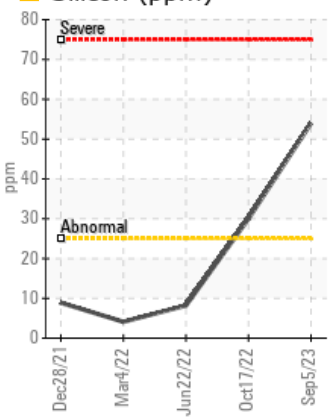
▲ Glycol Contamination



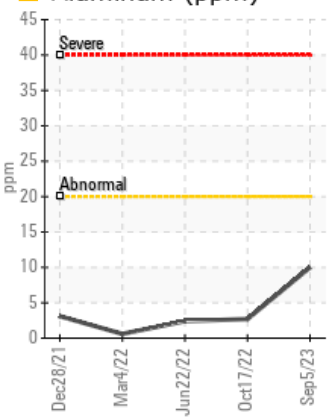
▲ Ferrous Alloys



▲ Silicon (ppm)



▲ Aluminum (ppm)



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 recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	SEVERE	MARGINAL
Iron	ppm	ASTM D5185m	>100	▲ **164**	61	18
Aluminum	ppm	ASTM D5185m	>20	▲ **10**	3	2
Silicon	ppm	ASTM D5185m	>25	▲ **54**	▲ 30	8
Sodium	ppm	ASTM D5185m		▲ **1473**	▲ 971	2
Potassium	ppm	ASTM D5185m	>20	▲ **73**	2	1

Customer Id: GFL626
Sample No.: GFL0062199
Lab Number: 05947019
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 Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

17 Oct 2022 Diag: Don Baldridge

GLYCOL

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.The lead level is abnormal. All other component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is positive. Elemental level of silicon (Si) above normal. There is a high concentration of glycol present in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

22 Jun 2022 Diag: Jonathan Hester

FUEL

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Light fuel dilution occurring. 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 Mar 2022 Diag: Don Baldridge

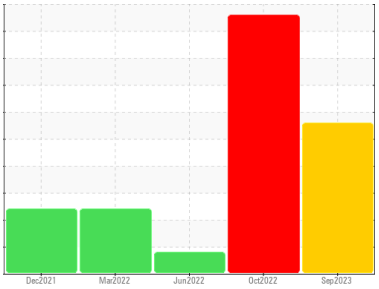
FUEL

We advise that you check the fuel injection system. 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. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. 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



DIRT

Machine Id
929024-540
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- 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 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.

Fluid Condition
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		**GFL0062199**	GFL0061904	GFL0043654
Sample Date		Client Info		**05 Sep 2023**	17 Oct 2022	22 Jun 2022
Machine Age	hrs	Client Info		**9491**	18999	9031
Oil Age	hrs	Client Info		**140**	580	116
Oil Changed		Client Info		**Not Changd**	Changed	Not Changd
Sample Status				**ABNORMAL**	SEVERE	MARGINAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	▲ 4.4

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	▲ **164**	61	18
Chromium	ppm	ASTM D5185m	>20	**15**	7	2
Nickel	ppm	ASTM D5185m	>4	**<1**	<1	0
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**<1**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	▲ **10**	3	2
Lead	ppm	ASTM D5185m	>40	**3**	▲ 50	<1
Copper	ppm	ASTM D5185m	>330	**56**	48	1
Tin	ppm	ASTM D5185m	>15	**1**	2	<1
Antimony	ppm	ASTM D5185m		**---**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**101**	25	48
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**109**	119	46
Manganese	ppm	ASTM D5185m		**3**	3	<1
Magnesium	ppm	ASTM D5185m		**911**	750	529
Calcium	ppm	ASTM D5185m		**1061**	1245	1543
Phosphorus	ppm	ASTM D5185m		**1014**	940	931
Zinc	ppm	ASTM D5185m		**1275**	1189	1144
Sulfur	ppm	ASTM D5185m		**3943**	3086	2737

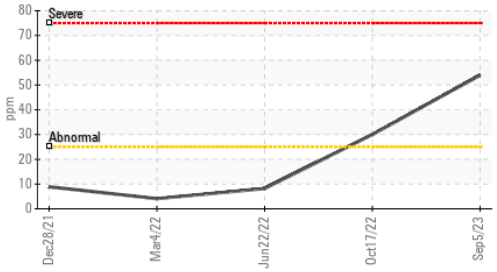
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **54**	▲ 30	8
Sodium	ppm	ASTM D5185m		▲ **1473**	▲ 971	2
Potassium	ppm	ASTM D5185m	>20	▲ **73**	2	1
Glycol	%	*ASTM D2982		**NEG**	⬢ 0.10	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.5**	1.2	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**10.9**	15.5	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**18.3**	25.0	23.7

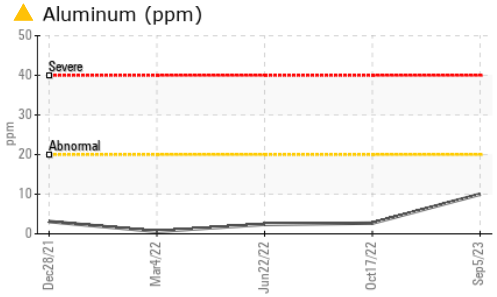
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.7**	21.0	22.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**22.3**	13.2	10.3

OIL ANALYSIS REPORT

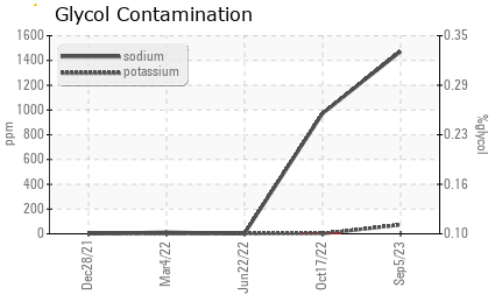
Silicon (ppm)



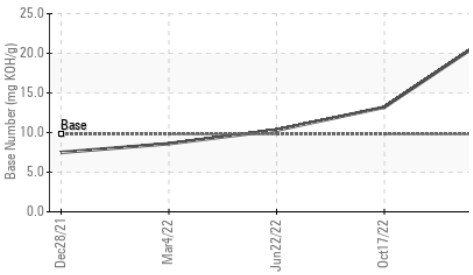
Aluminum (ppm)



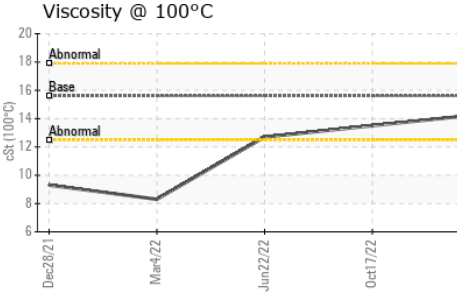
Glycol Contamination



Base Number



Viscosity @ 100°C

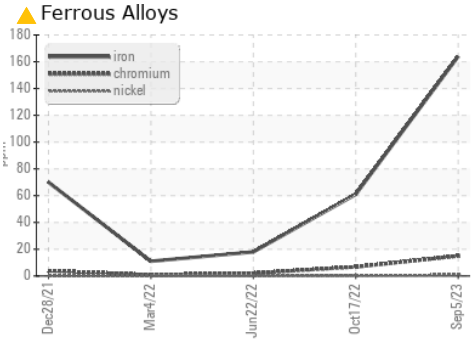


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

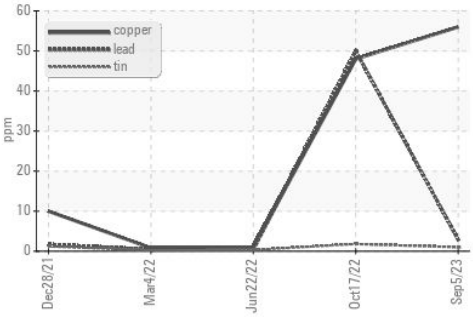
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	**14.3**	13.5	12.7

GRAPHS

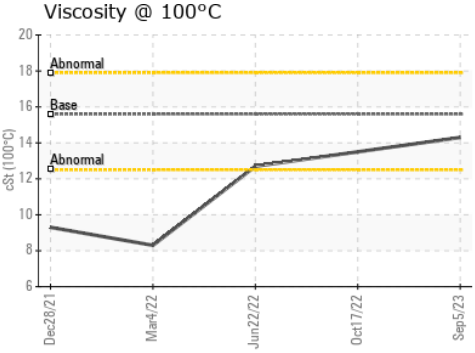
Ferrous Alloys



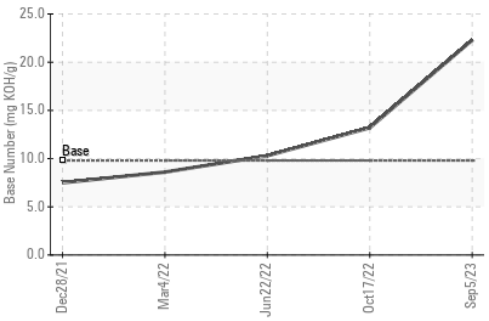
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0062199
Lab Number : 05947019
Unique Number : 10642978
Test Package : FLEET

Received : 11 Sep 2023
Diagnosed : 13 Sep 2023
Diagnostician : 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 - 626 - Cadillac Hauling
1501 Ron Wilson St
Cadillac, MI
US 49601
Contact: GARY BREWER
gbrewerjr@gflenv.com
T:
F:

Report Id: GFL626 [WUSCAR] 05947019 (Generated: 09/13/2023 15:55:25) Rev: 1

Submitted By: GARY BREWER