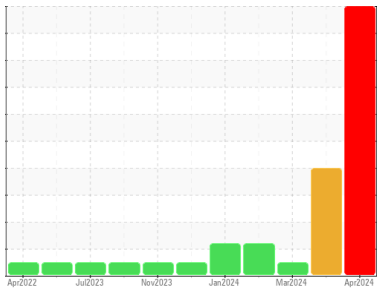
PROBLEM SUMMARY

Machine Id
4659M
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

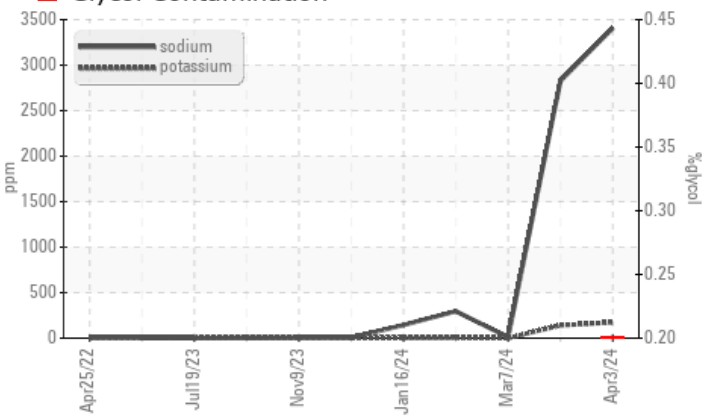
Sample Rating Trend



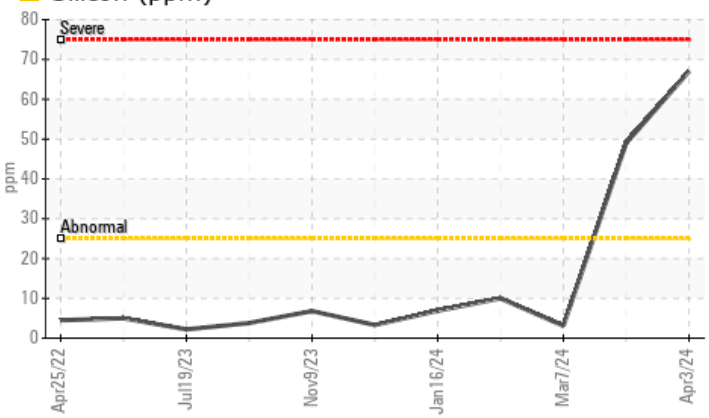
GLYCOL

COMPONENT CONDITION SUMMARY

▲ Glycol Contamination



▲ Silicon (ppm)



RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	NORMAL
Silicon	ppm	ASTM D5185m	>25	▲ **67**	▲ 49	3
Sodium	ppm	ASTM D5185m		▲ **3406**	▲ 2827	10
Potassium	ppm	ASTM D5185m	>20	▲ **174**	▲ 140	0
Glycol	%	*ASTM D2982		▲ **0.20**	NEG	NEG

Customer Id: GFL410
Sample No.: GFL0104403
Lab Number: 06140967
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 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	---	---	?	We recommend an early resample to monitor this condition.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

DIRT

15 Mar 2024 Diag: Jonathan Hester
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. Elemental level of silicon (Si) above normal indicating ingress of seal material. The BN result indicates that there is suitable alkalinity remaining in the oil.

view report

NORMAL

07 Mar 2024 Diag: Wes Davis
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

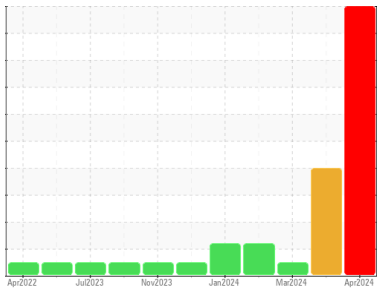
GLYCOL

26 Jan 2024 Diag: Jonathan Hester
We advise that you check for possible 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.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
4659M
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. 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
Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material.

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		**GFL0104403**	GFL0104416	GFL0104250
Sample Date		Client Info		**03 Apr 2024**	15 Mar 2024	07 Mar 2024
Machine Age	mls	Client Info		**168024**	111386	16738
Oil Age	mls	Client Info		**300**	0	300
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	**22**	17	11
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	0
Nickel	ppm	ASTM D5185m	>2	**0**	<1	0
Titanium	ppm	ASTM D5185m	>2	**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**4**	4	<1
Lead	ppm	ASTM D5185m	>40	**0**	0	0
Copper	ppm	ASTM D5185m	>330	**3**	3	0
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		**171**	114	0
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**204**	165	55
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m		**849**	853	869
Calcium	ppm	ASTM D5185m		**922**	977	938
Phosphorus	ppm	ASTM D5185m		**1035**	1014	793
Zinc	ppm	ASTM D5185m		**1145**	1173	1052
Sulfur	ppm	ASTM D5185m		**3227**	3129	2474

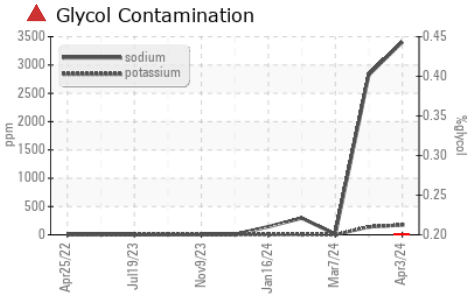
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **67**	▲ 49	3
Sodium	ppm	ASTM D5185m		▲ **3406**	▲ 2827	10
Potassium	ppm	ASTM D5185m	>20	▲ **174**	▲ 140	0
Glycol	%	*ASTM D2982		▲ **0.20**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.3**	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**12.5**	10.6	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.1**	22.0	19.0

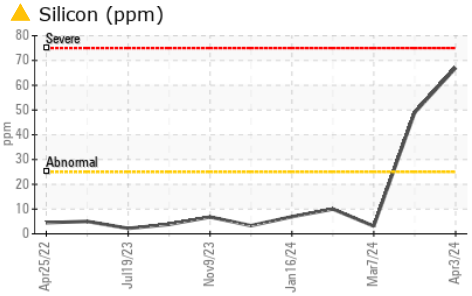
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.3**	14.7	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**27.2**	19.9	8.0

OIL ANALYSIS REPORT

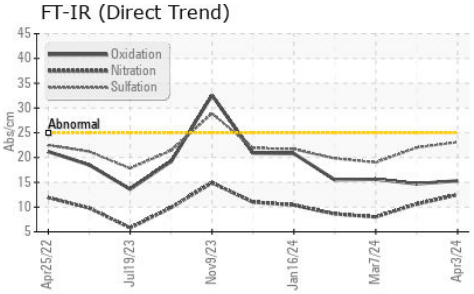
Glycol Contamination



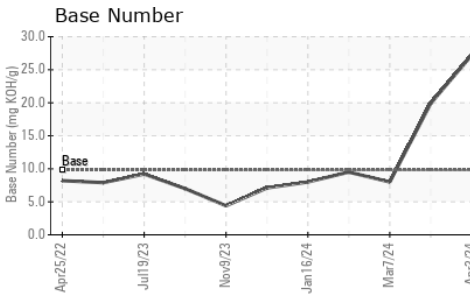
Silicon (ppm)



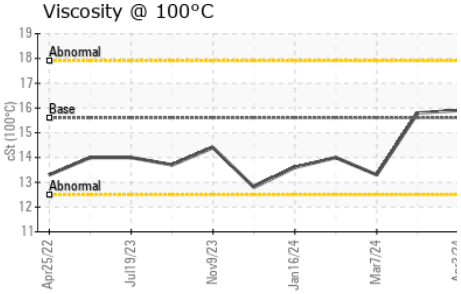
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

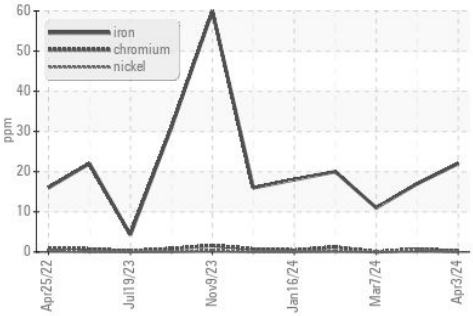


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

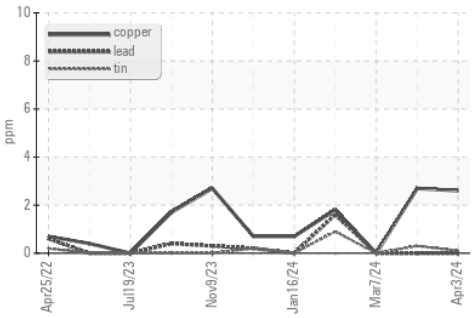
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	**15.9**	15.8	13.3

GRAPHS

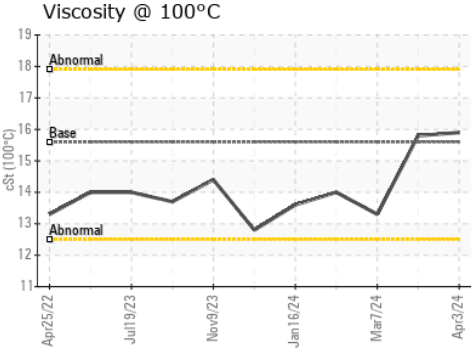
Ferrous Alloys



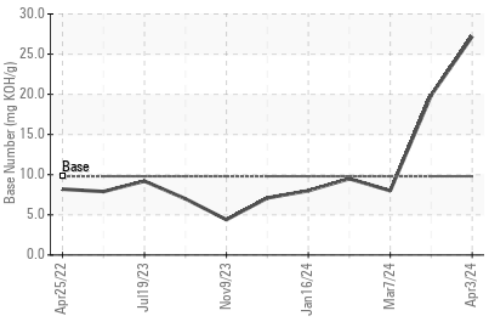
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0104403
Lab Number : 06140967
Unique Number : 10965775
Test Package : FLEET (Additional Tests: Glycol)

Received : 08 Apr 2024
Tested : 10 Apr 2024
Diagnosed : 10 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)

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Wayne, MI
US 48184
Contact: Belal Dgheish
bdgheish@gflenv.com
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F:

Report Id: GFL410 [WUSCAR] 06140967 (Generated: 04/10/2024 10:55:03) Rev: 1

Submitted By: seel also GFL468 - Laura Wilson