

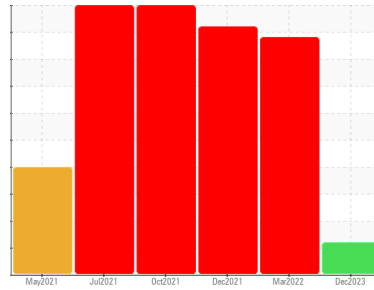


PROBLEM SUMMARY



Machine Id
4549M
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend

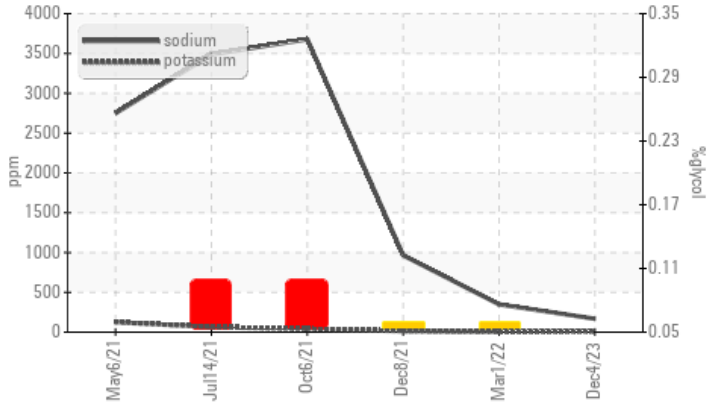


GLYCOL



COMPONENT CONDITION SUMMARY

▲ Glycol Contamination



RECOMMENDATION

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			ATTENTION	SEVERE	SEVERE
Sodium	ppm	ASTM D5185m	▲ 168	▲ 349	▲ 965

Customer Id: GFL415
 Sample No.: GFL0101512
 Lab Number: 06026090
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
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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.

HISTORICAL DIAGNOSIS

01 Mar 2022 Diag: Doug Bogart

GLYCOL



[view report](#)



08 Dec 2021 Diag: Doug Bogart

WATER



We advise that you check for the source of water/coolant entry. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High contaminants in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. Cylinder, crank, or cam shaft wear is indicated. Sodium and/or potassium levels are high. Test for glycol is positive. There is a high concentration of water present in the oil. The oil viscosity is higher than normal. The BN level is low.

[view report](#)



06 Oct 2021 Diag: Don Baldrige

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. Cylinder, crank, or cam shaft wear is indicated. Sodium and/or potassium levels are high. Elemental level of silicon (Si) above normal indicating ingress of seal material. There is a high concentration of glycol present in the oil. The oil viscosity is higher than normal. 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.

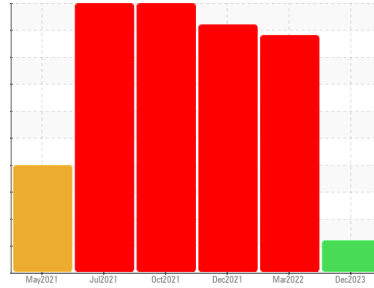
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OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
4549M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

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 remain high. Fuel content negligible. Test for glycol is negative.

▲ Fluid Condition

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

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0101512	GFL0047617	GFL0039804
Sample Date	Client Info	04 Dec 2023	01 Mar 2022	08 Dec 2021
Machine Age	hrs	665	5314	4738
Oil Age	hrs	5314	4738	3597
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ATTENTION	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 >90	26	73	▲ 99
Chromium	ppm ASTM D5185m >20	<1	3	5
Nickel	ppm ASTM D5185m >2	0	0	2
Titanium	ppm ASTM D5185m >2	0	<1	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	7	12	11
Lead	ppm ASTM D5185m >40	0	2	1
Copper	ppm ASTM D5185m >330	23	2	3
Tin	ppm ASTM D5185m >15	0	<1	<1
Antimony	ppm ASTM D5185m	---	0	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	12	6	9
Barium	ppm ASTM D5185m 0	2	0	0
Molybdenum	ppm ASTM D5185m 60	64	67	91
Manganese	ppm ASTM D5185m 0	0	<1	1
Magnesium	ppm ASTM D5185m 1010	929	959	1005
Calcium	ppm ASTM D5185m 1070	1202	1072	1195
Phosphorus	ppm ASTM D5185m 1150	1041	985	1044
Zinc	ppm ASTM D5185m 1270	1298	1195	1253
Sulfur	ppm ASTM D5185m 2060	3492	2293	2482

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	7	14	22
Sodium	ppm ASTM D5185m	▲ 168	▲ 349	▲ 965
Potassium	ppm ASTM D5185m >20	10	3	13
Fuel	% ASTM D3524 >3.0	0.3	◆ 6.3	<1.0
Glycol	% *ASTM D2982	NEG	▲ 0.06	▲ 0.06

INFRA-RED

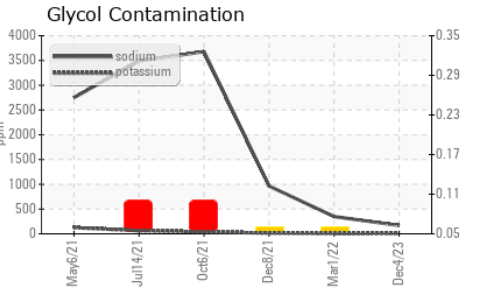
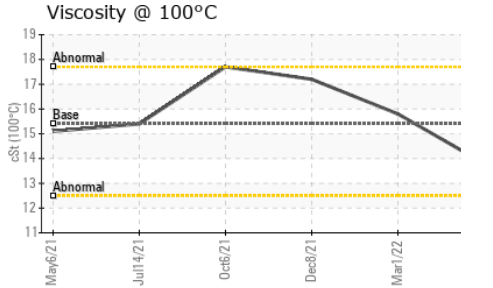
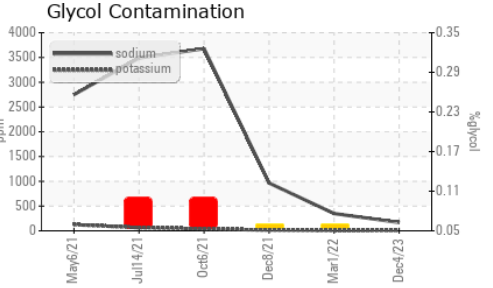
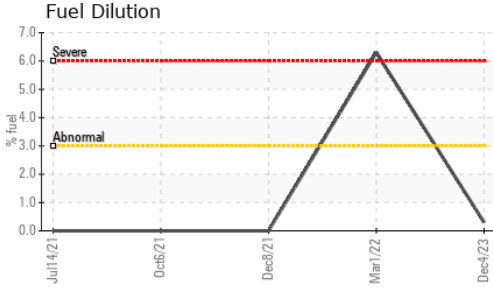
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.4	◆ 7.2	4.9
Nitration	Abs/cm *ASTM D7624 >20	8.5	22.0	14.9
Sulfation	Abs/.1mm *ASTM D7415 >30	20.0	38.3	30.8

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.8	28.6	20.6
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.2	▲ 0.0	▲ 1.5



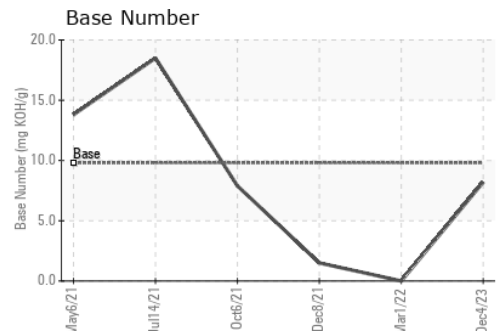
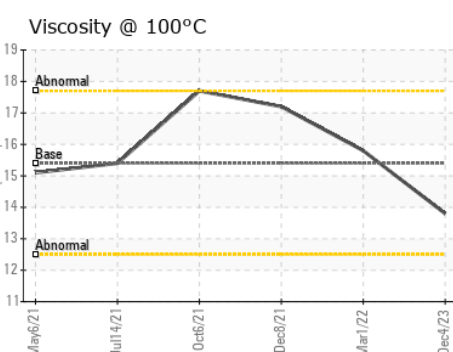
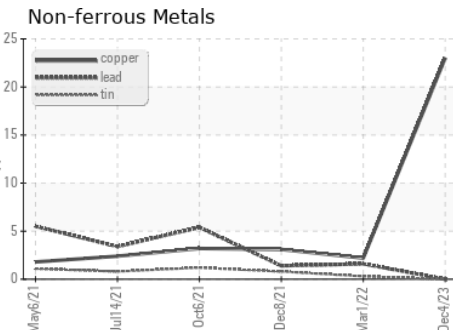
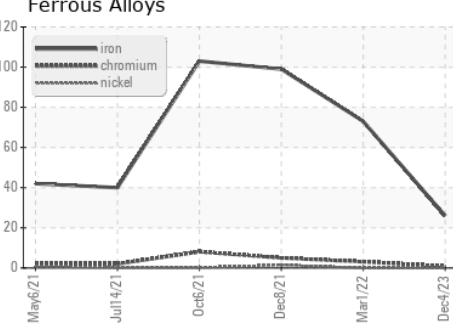
OIL ANALYSIS REPORT



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	15.8 ▲ 17.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0101512 Received : 06 Dec 2023
 Lab Number : 06026090 Diagnosed : 14 Dec 2023
 Unique Number : 10775881 Diagnostician : Jonathan Hester
 Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 415 - Michigan East
 6200 Elmridge
 Sterling Heights, MI
 US 48313
 Contact: Frank Wolak
 fwolak@gflenv.com
 T: (586)825-9514
 F:

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)