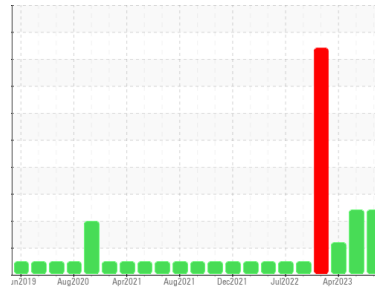




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area
GFL035
Machine Id
10994
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (9 GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels remain high.

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	GFL0102348	GFL0102291	GFL0071589
Sample Date	Client Info	27 Feb 2024	17 Nov 2023	23 Apr 2023
Machine Age	hrs	0	6769	0
Oil Age	hrs	600	600	0
Oil Changed	Client Info	Not Chngd	Changed	N/A
Sample Status		ABNORMAL	ABNORMAL	ATTENTION

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 >75	34	18	37
Chromium	ppm ASTM D5185m >5	1	1	2
Nickel	ppm ASTM D5185m >4	<1	<1	0
Titanium	ppm ASTM D5185m >2	0	<1	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >15	4	4	6
Lead	ppm ASTM D5185m >25	<1	0	<1
Copper	ppm ASTM D5185m >100	2	2	1
Tin	ppm ASTM D5185m >4	<1	<1	<1
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	3	10	3
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	63	69	84
Manganese	ppm ASTM D5185m 0	<1	0	<1
Magnesium	ppm ASTM D5185m 1010	1102	842	1053
Calcium	ppm ASTM D5185m 1070	1242	1105	1298
Phosphorus	ppm ASTM D5185m 1150	989	953	1177
Zinc	ppm ASTM D5185m 1270	1484	1176	1447
Sulfur	ppm ASTM D5185m 2060	3369	3459	3845

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	16	16	18
Sodium	ppm ASTM D5185m	▲ 116	▲ 210	● 253
Potassium	ppm ASTM D5185m >20	▲ 144	▲ 383	15
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

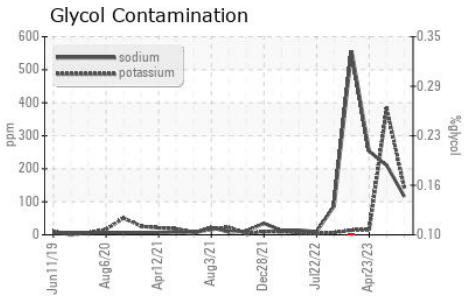
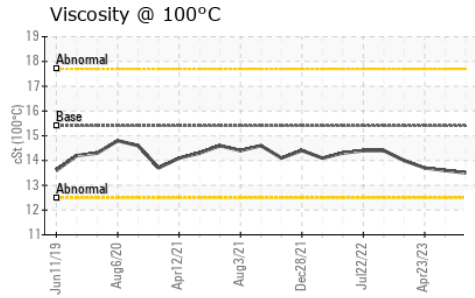
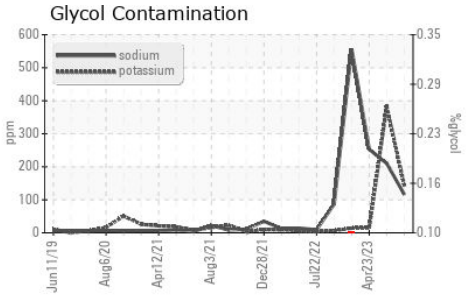
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.9	0.4	0.8
Nitration	Abs/cm *ASTM D7624 >20	11.6	7.1	11.2
Sulfation	Abs/.1mm *ASTM D7415 >30	22.3	19.4	23.7

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	18.2	13.5	19.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	6.5	8.7	6.7



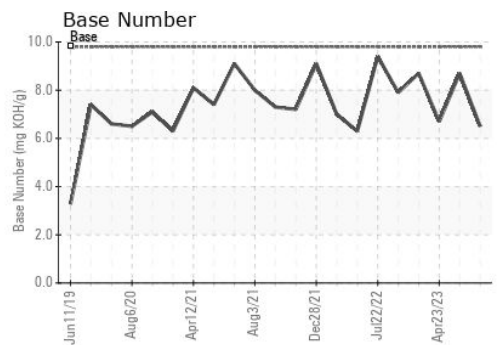
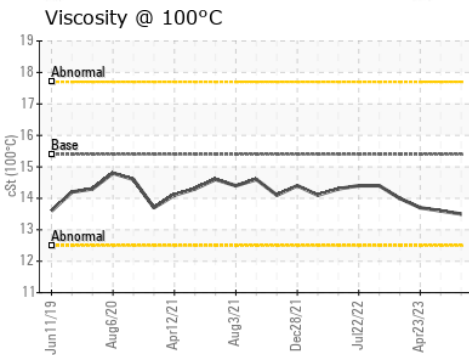
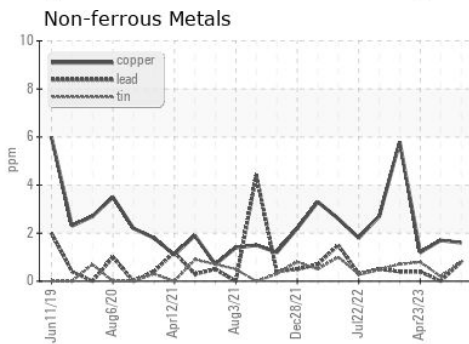
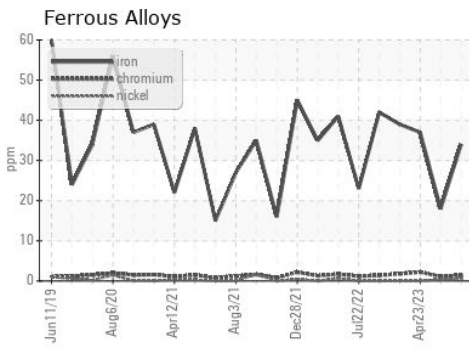
OIL ANALYSIS REPORT



VISUAL	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	13.5	13.6	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0102348 **Received** : 29 Feb 2024
Lab Number : **06104214** **Tested** : 04 Mar 2024
Unique Number : 10902444 **Diagnosed** : 04 Mar 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 035 - Greensboro
 1236 Elon Place
 High Point, NC
 US 27263
 Contact: JORGE COSTA
 jorge.costa@gflenv.com
 T: (336)668-3712
 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)