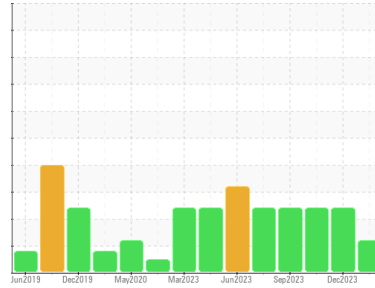




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
426079-402318

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- 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 are high. Fuel content negligible.

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	GFL0109765	GFL0099916	GFL0095163
Sample Date	Client Info	30 Jan 2024	14 Dec 2023	02 Nov 2023
Machine Age	hrs	2240	2042	1935
Oil Age	hrs	0	0	0
Oil Changed	Client Info	Not Chngd	Not Chngd	Not Chngd
Sample Status		ABNORMAL	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 >100	22	40	19
Chromium	ppm ASTM D5185m >20	<1	2	<1
Nickel	ppm ASTM D5185m >4	0	0	<1
Titanium	ppm ASTM D5185m	0	0	<1
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	3	3	2
Lead	ppm ASTM D5185m >40	3	<1	<1
Copper	ppm ASTM D5185m >330	1	3	3
Tin	ppm ASTM D5185m >15	<1	<1	<1
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	9	2	2
Barium	ppm ASTM D5185m 0	0	0	5
Molybdenum	ppm ASTM D5185m 60	71	51	57
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	902	828	823
Calcium	ppm ASTM D5185m 1070	991	875	948
Phosphorus	ppm ASTM D5185m 1150	1032	815	916
Zinc	ppm ASTM D5185m 1270	1169	1070	1085
Sulfur	ppm ASTM D5185m 2060	2992	2294	2653

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	13	8	6
Sodium	ppm ASTM D5185m	441	2	0
Potassium	ppm ASTM D5185m >20	5	2	3
Fuel	% ASTM D3524 >5	0.5	15.0	11.4
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

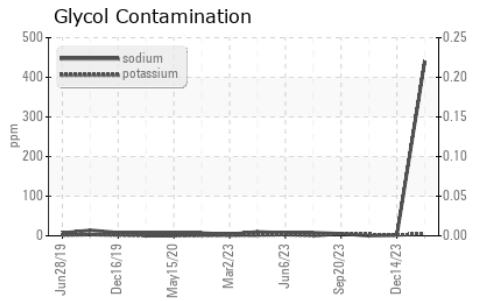
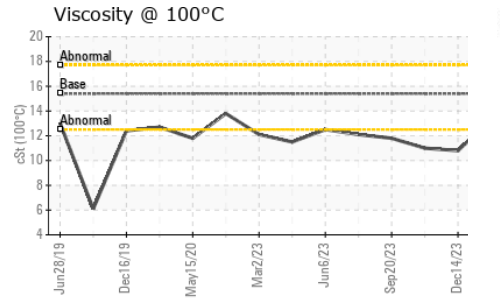
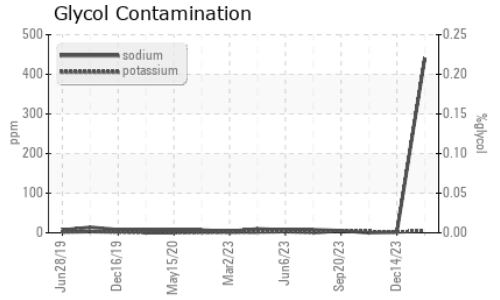
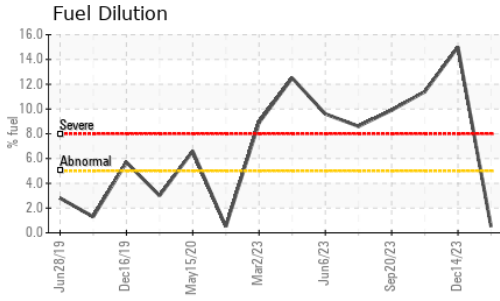
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.8	1.2	0.7
Nitration	Abs/cm *ASTM D7624 >20	9.7	13.9	10.8
Sulfation	Abs/.1mm *ASTM D7415 >30	20.5	28.1	23.3

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.5	30.4	24.0
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.5	4.0	6.0



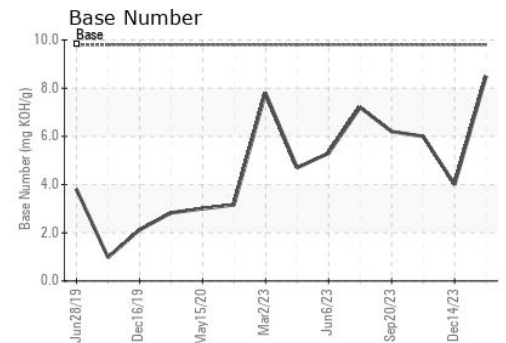
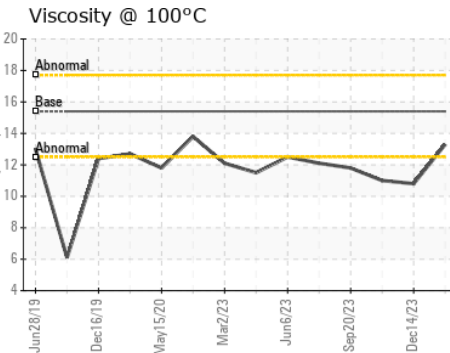
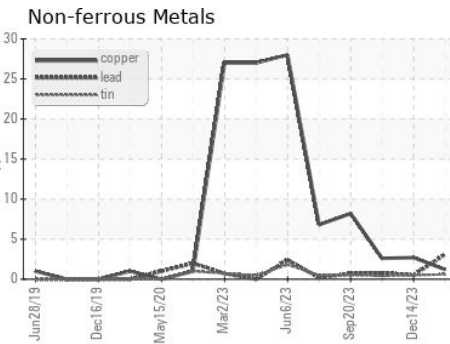
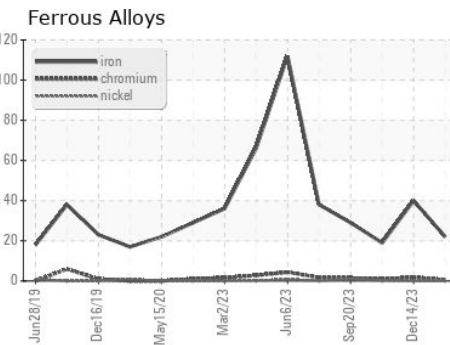
OIL ANALYSIS REPORT



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	13.3	▲ 10.8 ▲ 11.0

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0109765 **Received** : 01 Feb 2024
Lab Number : 06077478 **Diagnosed** : 05 Feb 2024
Unique Number : 10859569 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol, PercentFuel)

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@gflenv.com

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)

T:
F: