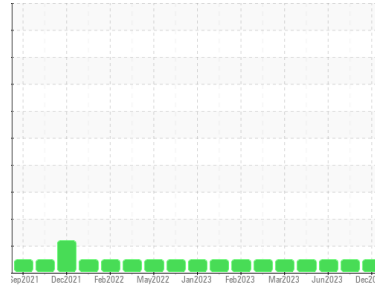




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
741005-310096

Component
Diesel Engine

Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: OIL SAMPLE)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

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

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0092092	GFL0084564	GFL0078178
Sample Date	Client Info	02 Dec 2023	14 Jun 2023	07 Jun 2023
Machine Age	hrs	87949	7749	87949
Oil Age	hrs	10841	0	0
Oil Changed	Client Info	Not Chngd	Changed	Not Chngd
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Water	WC Method >0.2	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >110	9	14	13
Chromium	ppm ASTM D5185m >4	<1	1	<1
Nickel	ppm ASTM D5185m >2	0	<1	0
Titanium	ppm ASTM D5185m	0	<1	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >25	2	3	2
Lead	ppm ASTM D5185m >45	0	13	11
Copper	ppm ASTM D5185m >85	<1	<1	<1
Tin	ppm ASTM D5185m >4	0	2	<1
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 50	9	7	10
Barium	ppm ASTM D5185m 5	3	0	0
Molybdenum	ppm ASTM D5185m 50	52	62	61
Manganese	ppm ASTM D5185m 0	0	1	<1
Magnesium	ppm ASTM D5185m 560	516	666	670
Calcium	ppm ASTM D5185m 1510	1504	2021	1911
Phosphorus	ppm ASTM D5185m 780	653	838	855
Zinc	ppm ASTM D5185m 870	889	1100	1137
Sulfur	ppm ASTM D5185m 2040	2480	2961	3150

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >30	8	5	6
Sodium	ppm ASTM D5185m	39	11	10
Potassium	ppm ASTM D5185m >20	10	0	<1

INFRA-RED

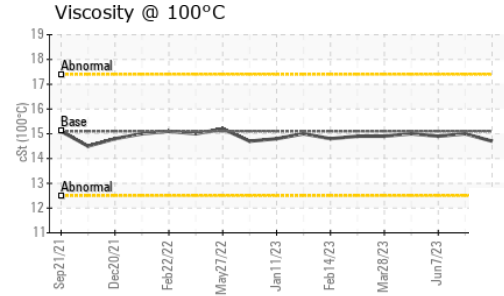
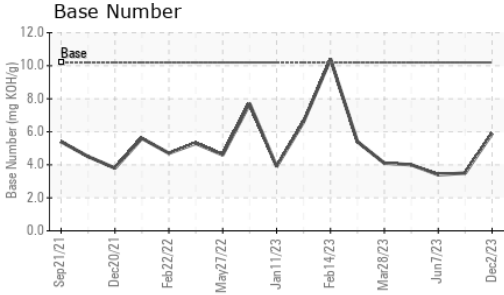
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0	0.1	0.1
Nitration	Abs/cm *ASTM D7624 >20	10.8	12.4	11.3
Sulfation	Abs/.1mm *ASTM D7415 >30	20.8	27.2	26.7

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	17.7	23.4	23.8
Base Number (BN)	mg KOH/g ASTM D2896 10.2	5.9	3.5	3.4



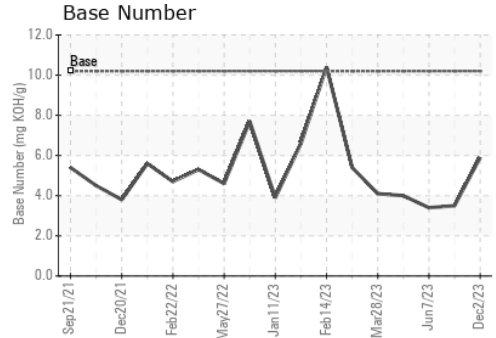
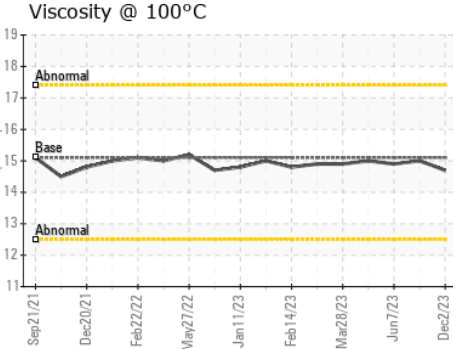
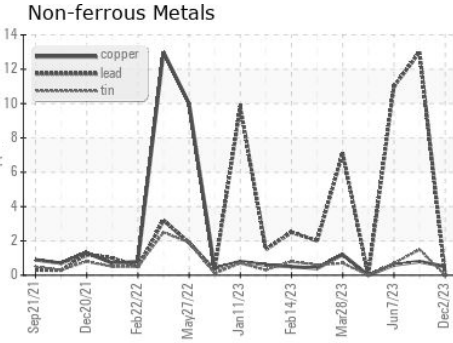
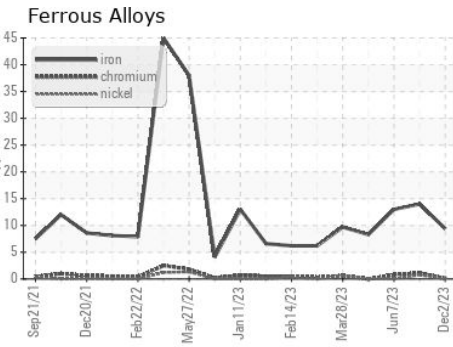
OIL ANALYSIS REPORT



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	15.1	14.7	15.0	14.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0092092 **Received** : 05 Dec 2023
Lab Number : **06025589** **Diagnosed** : 07 Dec 2023
Unique Number : 10770089 **Diagnostician** : Sean Felton
Test Package : FLEET

GFL Environmental - 856 - Houston South
 8515 Highway 6 South
 Houston, TX
 US 77083
 Contact: Apolinar Zacarias
 pzacariascano@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: