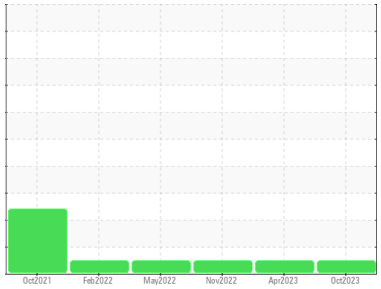
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
931004
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Fluid Condition
Additive levels indicate the addition of a different brand, or type of 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		**GFL0097772**	GFL0081582	GFL0044228
Sample Date		Client Info		**20 Oct 2023**	24 Apr 2023	03 Nov 2022
Machine Age	hrs	Client Info		**5093**	4133	3185
Oil Age	hrs	Client Info		**1200**	1200	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Glycol		WC Method		**---**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	**23**	17	15
Chromium	ppm	ASTM D5185(m)	>5	**1**	<1	1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>5	**0**	<1	<1
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>25	**6**	4	6
Lead	ppm	ASTM D5185(m)	>40	**9**	9	4
Copper	ppm	ASTM D5185(m)	>150	**2**	2	3
Tin	ppm	ASTM D5185(m)	>4	**<1**	<1	1
Antimony	ppm	ASTM D5185(m)		**0**	<1	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

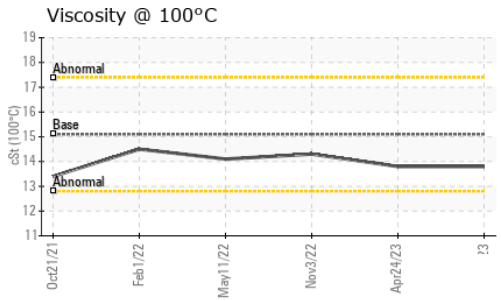
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	50	**1**	6	7
Barium	ppm	ASTM D5185(m)	5	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**68**	55	55
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	1
Magnesium	ppm	ASTM D5185(m)	560	**1032**	605	586
Calcium	ppm	ASTM D5185(m)	1510	**1269**	1715	1672
Phosphorus	ppm	ASTM D5185(m)	780	**945**	763	769
Zinc	ppm	ASTM D5185(m)	870	**1294**	965	947
Sulfur	ppm	ASTM D5185(m)	2040	**2201**	2058	2021
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

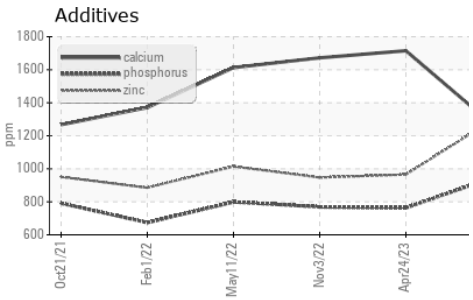
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**4**	4	5
Sodium	ppm	ASTM D5185(m)		**10**	10	10
Potassium	ppm	ASTM D5185(m)	>20	**8**	5	17

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**11.3**	11.7	12.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	**26.4**	24.5	25.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.7**	19.8	21.1

OIL ANALYSIS REPORT

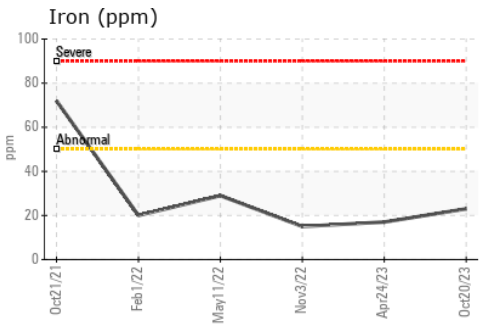


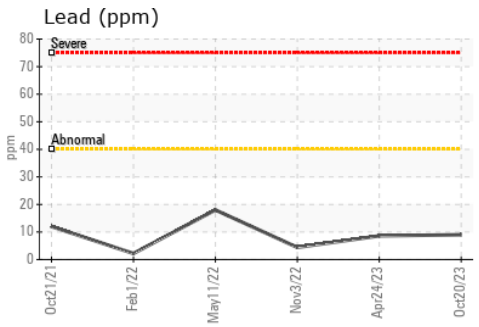


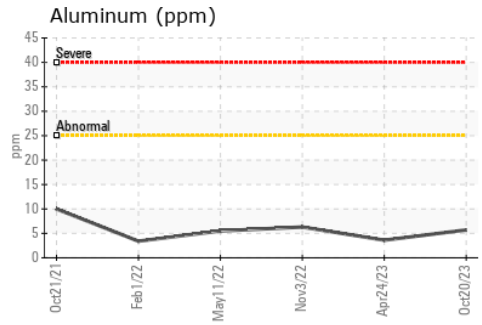
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

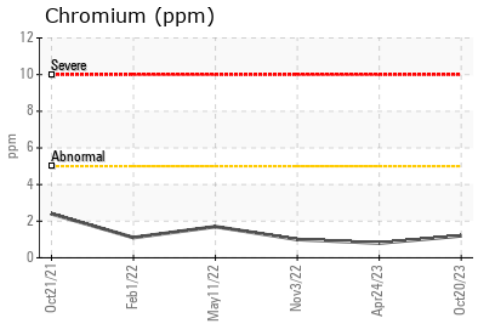
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	**13.8**	13.8	14.3

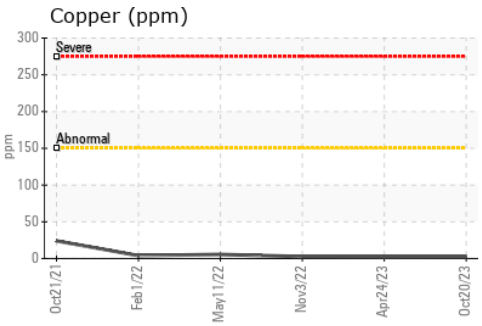
GRAPHS

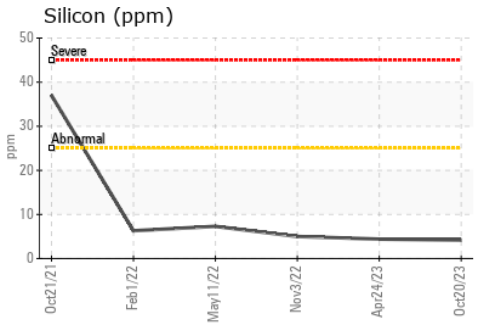


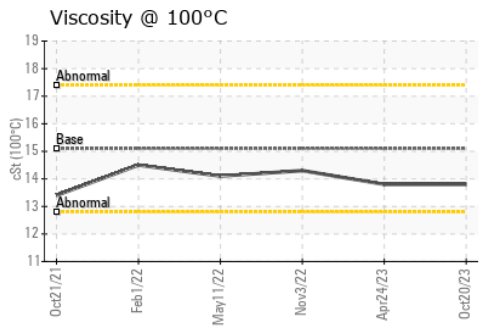


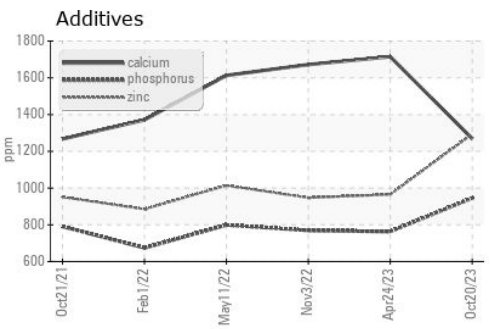












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 209 - Hamilton**
Sample No. : GFL0097772 **Received** : 25 Oct 2023
Lab Number : 02591598 **Diagnosed** : 25 Oct 2023
Unique Number : 5668677 **Diagnostician** : Wes Davis
Test Package : MOB 1

560 Seaman Street
Stoney Creek, ON
CA L8E 3X7
Contact: Fred Carleton
fred.carleton@gflenv.com
T: (289)925-6693
F: (905)664-9008

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.