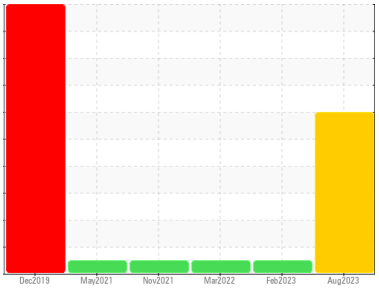
OIL ANALYSIS REPORT

Machine Id
901144
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

Sample Rating Trend



WEAR

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Chromium ppm levels are severe. Ring wear is indicated. A cylinder ring may be cracked or broken.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0085882**	GFL0071069	GFL0044199
Sample Date		Client Info		**25 Aug 2023**	23 Feb 2023	11 Mar 2022
Machine Age	hrs	Client Info		**68224**	8930	6744
Oil Age	hrs	Client Info		**1200**	1200	1200
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	**33**	22	17
Chromium	ppm	ASTM D5185(m)	>4	**7**	3	2
Nickel	ppm	ASTM D5185(m)	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**<1**	<1	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>9	**2**	3	4
Lead	ppm	ASTM D5185(m)	>30	**12**	14	1
Copper	ppm	ASTM D5185(m)	>35	**2**	<1	<1
Tin	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**0**	<1	0
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	**16**	4	12
Barium	ppm	ASTM D5185(m)	5	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**101**	62	101
Manganese	ppm	ASTM D5185(m)	0	**1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	560	**415**	655	701
Calcium	ppm	ASTM D5185(m)	1510	**2058**	1883	1424
Phosphorus	ppm	ASTM D5185(m)	780	**922**	860	729
Zinc	ppm	ASTM D5185(m)	870	**1061**	1030	865
Sulfur	ppm	ASTM D5185(m)	2040	**2331**	2164	2197
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>+100	**5**	6	6
Sodium	ppm	ASTM D5185(m)		**29**	29	10
Potassium	ppm	ASTM D5185(m)	>20	**1**	4	2

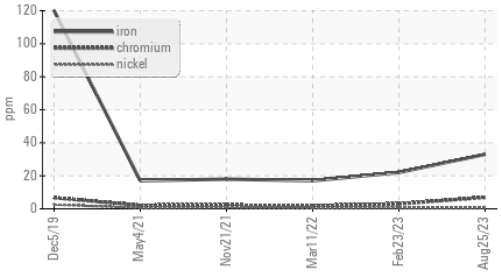
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**11.5**	13.7	9.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	**26.7**	30.9	22.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.4**	25.5	16.4

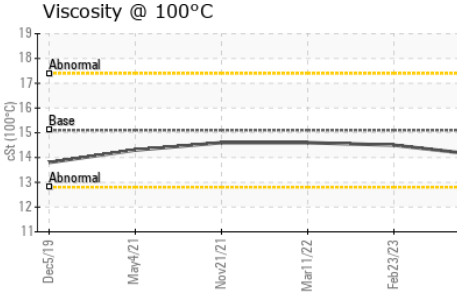
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

OIL ANALYSIS REPORT

Ferrous Alloys



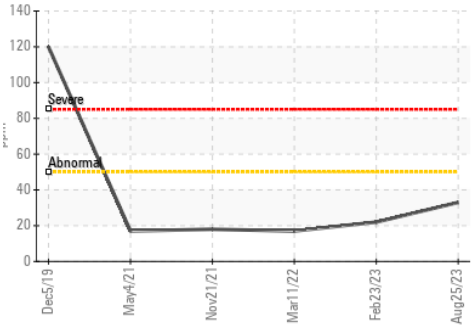
Viscosity @ 100°C



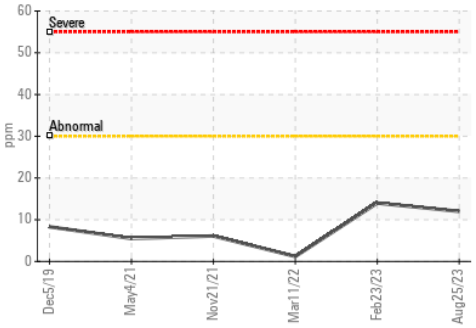
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	**14.1**	14.5	14.6

GRAPHS

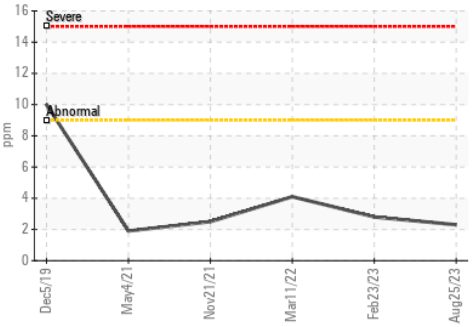
Iron (ppm)



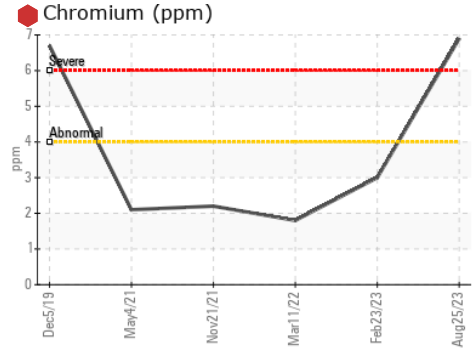
Lead (ppm)



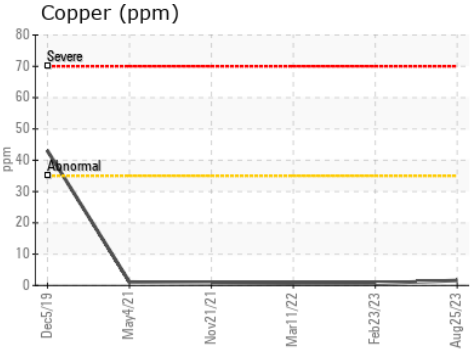
Aluminum (ppm)



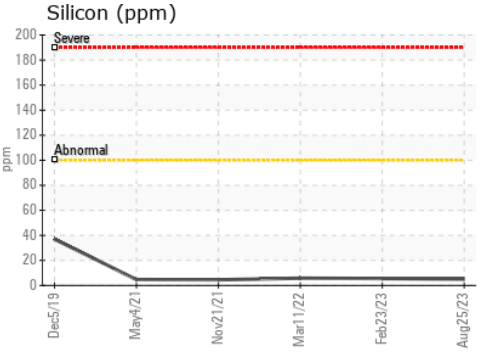
Chromium (ppm)



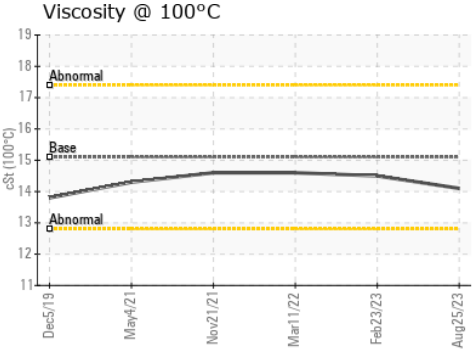
Copper (ppm)



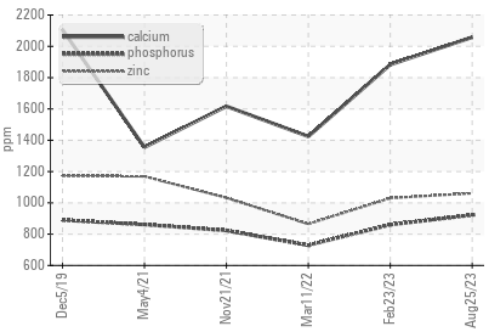
Silicon (ppm)



Viscosity @ 100°C



Additives



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 209 - Hamilton**
Sample No. : GFL0085882 **Received** : 29 Aug 2023
Lab Number : 02579009 **Diagnosed** : 29 Aug 2023
Unique Number : 5632069 **Diagnostician** : Kevin Marson
Test Package : MOB 1

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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.