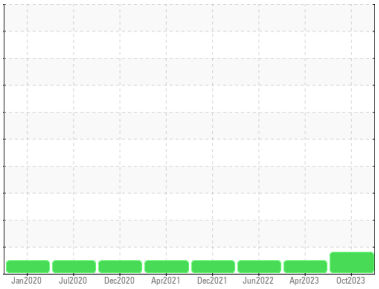
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
901002
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear

Chromium ppm levels are abnormal. Ring wear is indicated.

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		**GFL0094389**	GFL0063942	GFL0042901
Sample Date		Client Info		**05 Oct 2023**	25 Apr 2023	22 Jun 2022
Machine Age	hrs	Client Info		**16336**	16336	13983
Oil Age	hrs	Client Info		**16336**	16336	13983
Oil Changed		Client Info		**N/A**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	**33**	25	20
Chromium	ppm	ASTM D5185(m)	>4	▲ **4**	3	2
Nickel	ppm	ASTM D5185(m)	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	<1	1
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>9	**2**	2	2
Lead	ppm	ASTM D5185(m)	>30	**7**	6	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	**19**	19	15
Barium	ppm	ASTM D5185(m)	5	**2**	0	<1
Molybdenum	ppm	ASTM D5185(m)	50	**67**	68	71
Manganese	ppm	ASTM D5185(m)	0	**<1**	1	1
Magnesium	ppm	ASTM D5185(m)	560	**695**	746	772
Calcium	ppm	ASTM D5185(m)	1510	**1853**	1995	1820
Phosphorus	ppm	ASTM D5185(m)	780	**895**	1062	1097
Zinc	ppm	ASTM D5185(m)	870	**1101**	1193	1233
Sulfur	ppm	ASTM D5185(m)	2040	**2112**	2360	2402
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>+100	**11**	5	5
Sodium	ppm	ASTM D5185(m)		**6**	7	6
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**11.4**	12.3	12.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	**25.7**	28.1	30.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**21.8**	23.4	23.4

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

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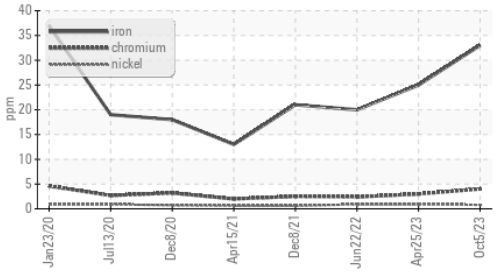
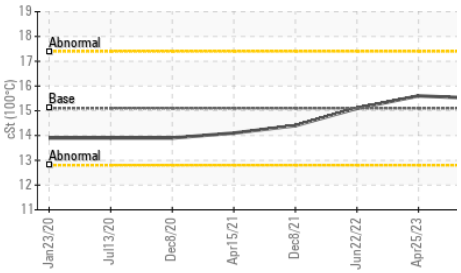
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	**15.5**	15.6	15.1

GRAPHS

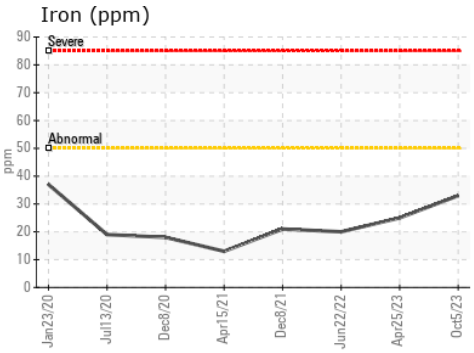
Ferrous Alloys



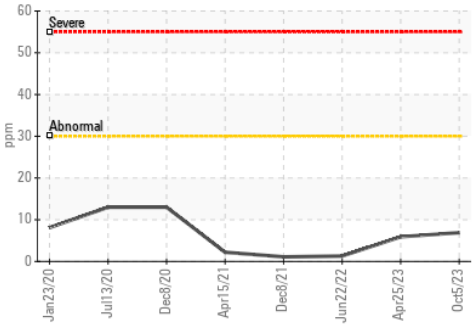
Viscosity @ 100°C



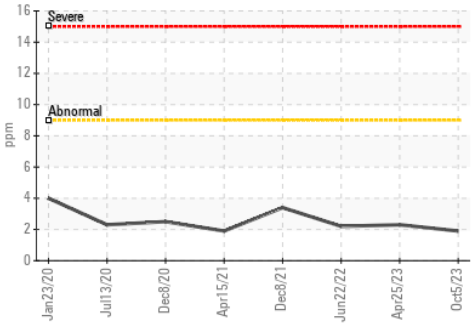
Iron (ppm)



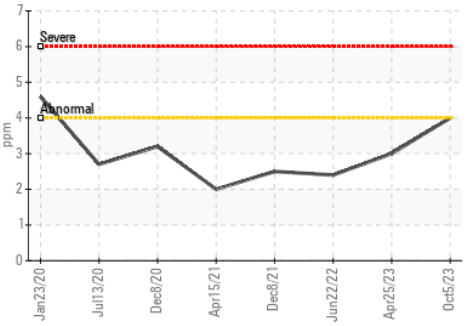
Lead (ppm)



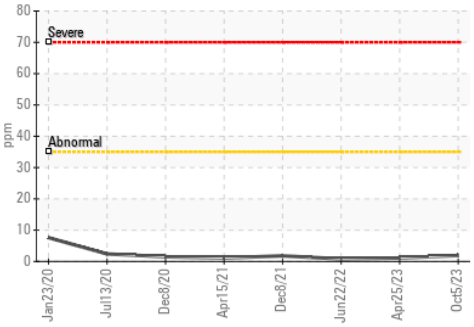
Aluminum (ppm)



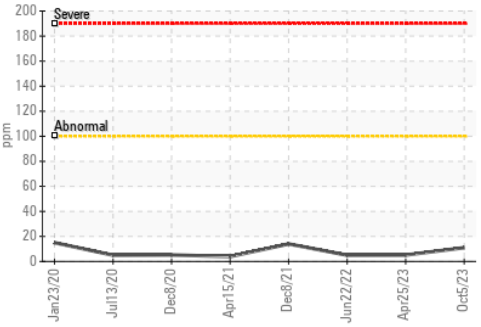
Chromium (ppm)



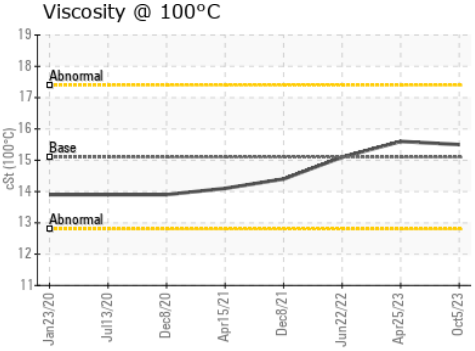
Copper (ppm)



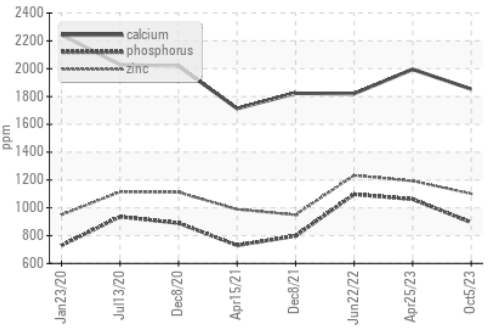
Silicon (ppm)



Viscosity @ 100°C



Additives



ISO 17025:2017 Accredited Laboratory

Laboratory	: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9	**GFL Environmental - 222 - Sandhill**	
Sample No.	: GFL0094389	**Received**	: 06 Oct 2023
Lab Number	: 02587565	**Diagnosed**	: 06 Oct 2023
Unique Number	: 5656631	**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.