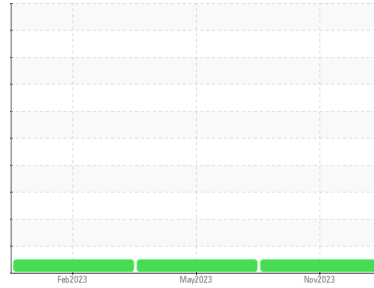




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
831044

Component
Natural Gas Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0097627	GFL0072812	GFL0072838
Sample Date	Client Info	15 Nov 2023	29 May 2023	16 Feb 2023
Machine Age	hrs Client Info	4456	3466	2890
Oil Age	hrs Client Info	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.1	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >50	20	17	29
Chromium	ppm ASTM D5185(m) >4	2	1	2
Nickel	ppm ASTM D5185(m) >2	<1	<1	1
Titanium	ppm ASTM D5185(m)	0	0	<1
Silver	ppm ASTM D5185(m) >3	0	0	0
Aluminum	ppm ASTM D5185(m) >9	5	2	3
Lead	ppm ASTM D5185(m) >30	8	<1	2
Copper	ppm ASTM D5185(m) >35	2	2	3
Tin	ppm ASTM D5185(m) >4	<1	<1	<1
Antimony	ppm ASTM D5185(m)	0	0	<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	6	8	8
Barium	ppm ASTM D5185(m) 5	<1	0	0
Molybdenum	ppm ASTM D5185(m) 50	59	55	55
Manganese	ppm ASTM D5185(m) 0	<1	<1	2
Magnesium	ppm ASTM D5185(m) 560	626	569	563
Calcium	ppm ASTM D5185(m) 1510	1798	1732	1731
Phosphorus	ppm ASTM D5185(m) 780	762	753	843
Zinc	ppm ASTM D5185(m) 870	985	905	972
Sulfur	ppm ASTM D5185(m) 2040	1976	1988	2079
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >+100	6	5	6
Sodium	ppm ASTM D5185(m)	13	10	8
Potassium	ppm ASTM D5185(m) >20	9	<1	2
Glycol	% ASTM D7922*	0.0	---	---

INFRA-RED

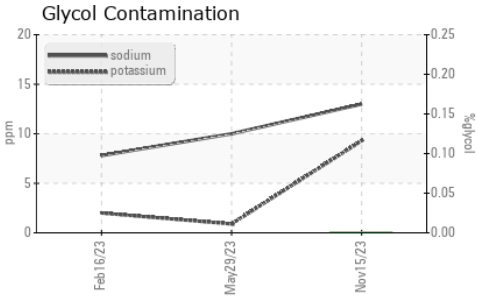
method	limit/base	current	history1	history2
Soot %	% ASTM D7844*	0	0	0
Nitration	Abs/cm ASTM D7624*	13.1	11.7	7.0
Sulfation	Abs/.1mm ASTM D7415*	28.7	24.3	19.2

FLUID DEGRADATION

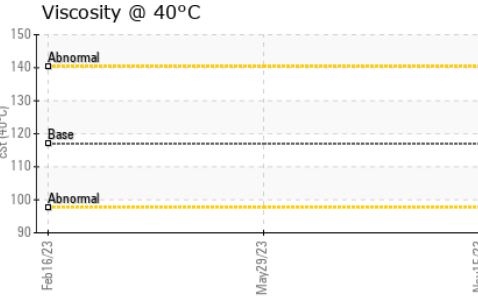
method	limit/base	current	history1	history2
Oxidation	Abs/.1mm ASTM D7414*	25.4	20.6	11.8



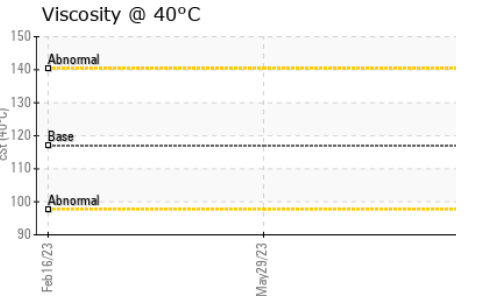
OIL ANALYSIS REPORT



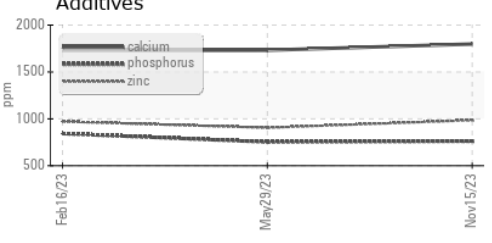
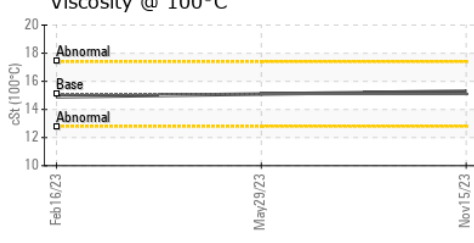
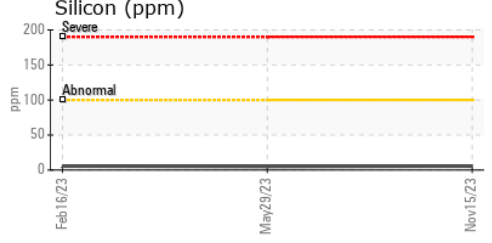
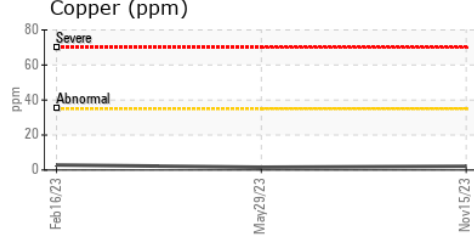
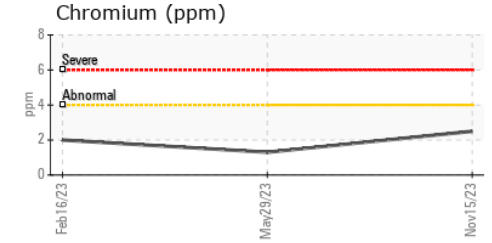
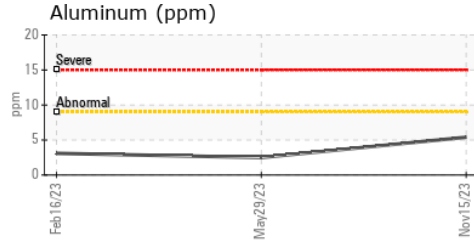
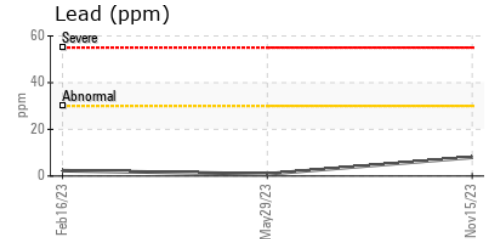
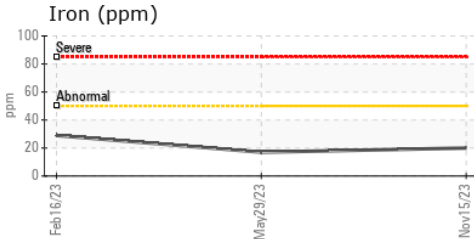
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
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 @ 40°C	cSt	ASTM D7279(m)	117.0	125	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	15.3	15.1	14.9
Viscosity Index (VI)	Scale	ASTM D2270*	134	127	---	---



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 554 - Edmonton SW
Sample No. : GFL0097627 **Received** : 21 Nov 2023
Lab Number : 02597796 **Diagnosed** : 22 Nov 2023
Unique Number : 5682876 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol, KV40, VI, Visual)
 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.

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