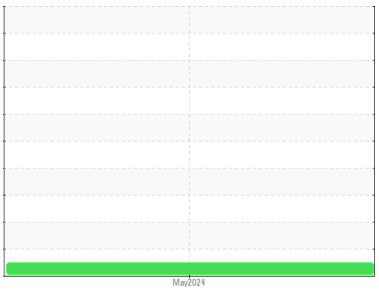
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
433012
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
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
The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0080159**	---	---
Sample Date		Client Info		**08 May 2024**	---	---
Machine Age	hrs	Client Info		**1200**	---	---
Oil Age	hrs	Client Info		**600**	---	---
Oil Changed		Client Info		**Changed**	---	---
Sample Status				**NORMAL**	---	---

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

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	---	---
Iron	ppm	ASTM D5185(m)	>50	**50**	---	---
Chromium	ppm	ASTM D5185(m)	>4	**1**	---	---
Nickel	ppm	ASTM D5185(m)	>2	**<1**	---	---
Titanium	ppm	ASTM D5185(m)		**<1**	---	---
Silver	ppm	ASTM D5185(m)	>3	**0**	---	---
Aluminum	ppm	ASTM D5185(m)	>9	**5**	---	---
Lead	ppm	ASTM D5185(m)	>30	**5**	---	---
Copper	ppm	ASTM D5185(m)	>35	**13**	---	---
Tin	ppm	ASTM D5185(m)	>4	**2**	---	---
Antimony	ppm	ASTM D5185(m)		**0**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	50	**12**	---	---
Barium	ppm	ASTM D5185(m)	5	**6**	---	---
Molybdenum	ppm	ASTM D5185(m)	50	**117**	---	---
Manganese	ppm	ASTM D5185(m)	0	**5**	---	---
Magnesium	ppm	ASTM D5185(m)	560	**714**	---	---
Calcium	ppm	ASTM D5185(m)	1510	**1369**	---	---
Phosphorus	ppm	ASTM D5185(m)	780	**668**	---	---
Zinc	ppm	ASTM D5185(m)	870	**863**	---	---
Sulfur	ppm	ASTM D5185(m)	2040	**2311**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

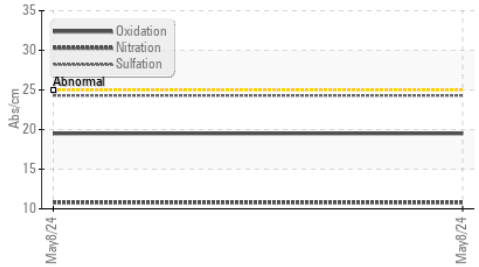
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>+100	**79**	---	---
Sodium	ppm	ASTM D5185(m)		**4**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**7**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	---	---
Nitration	Abs/cm	ASTM D7624*	>20	**10.8**	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**24.3**	---	---

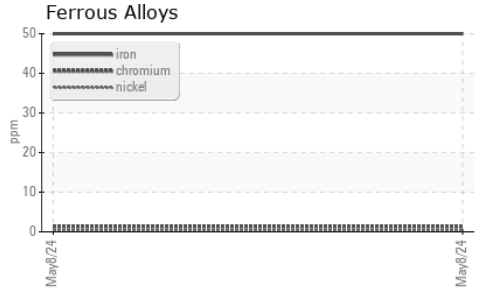
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.5**	---	---

OIL ANALYSIS REPORT

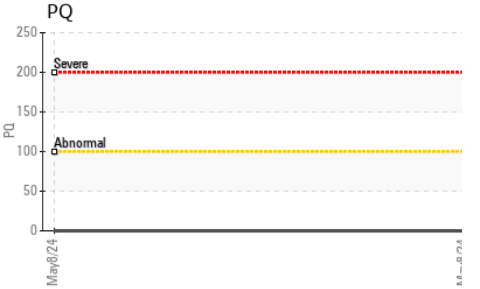
FT-IR (Direct Trend)



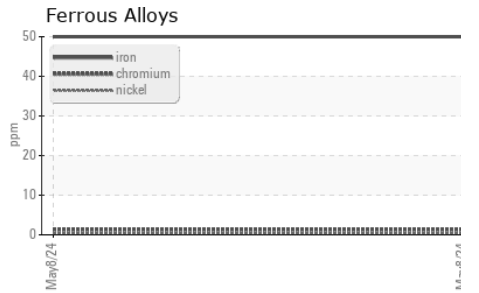
Ferrous Alloys



PQ



Ferrous Alloys

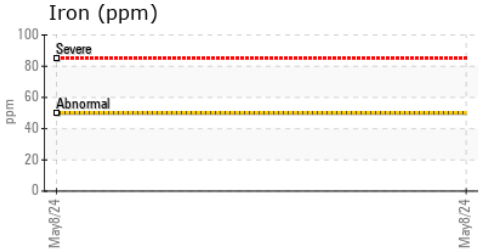


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**VLITE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**VLITE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	---	---
Emulsified Water	scalar	Visual*	>0.1	**NEG**	---	---
Free Water	scalar	Visual*		**NEG**	---	---

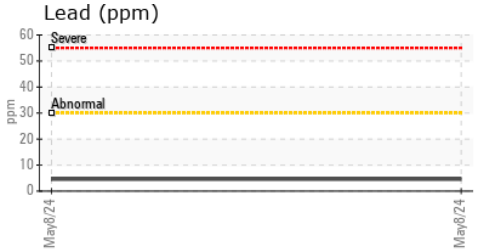
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	**13.5**	---	---

GRAPHS

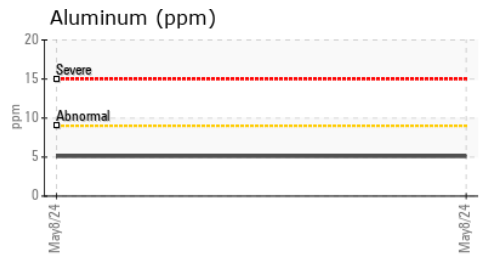
Iron (ppm)



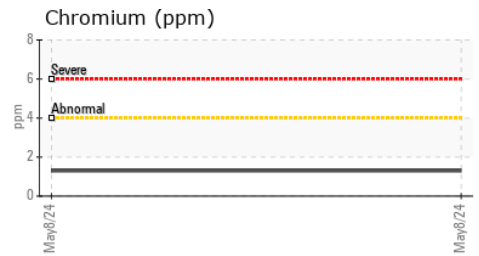
Lead (ppm)



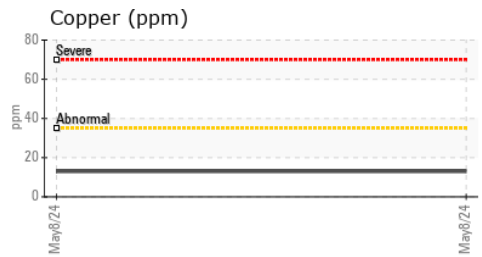
Aluminum (ppm)



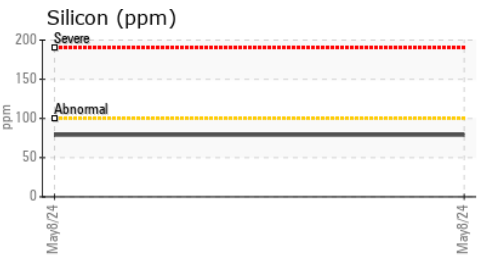
Chromium (ppm)



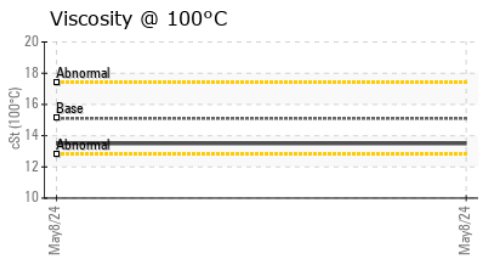
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



PQ

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0080159
Lab Number : 02647559
Unique Number : 5813111
Test Package : MOB 1 (Additional Tests: PQ, Visual)

Received : 12 Jul 2024
Tested : 12 Jul 2024
Diagnosed : 15 Jul 2024 - Kevin Marson

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.

GFL Environmental - 577 - First Class
8540 Chilliwack Mountain Rd,
Chilliwack, BC
CA V2R 3W8
Contact: Derek Jessop
djessop@gflenv.com
T: (604)798-5301
F: