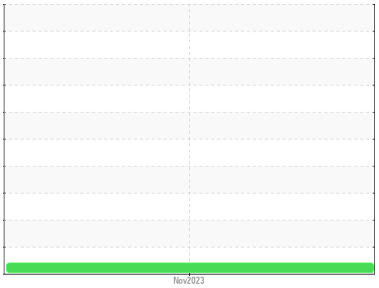
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
212057
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear

Metal levels are typical for a components first oil change.

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. Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0090747**	---	---
Sample Date		Client Info		**16 Nov 2023**	---	---
Machine Age	hrs	Client Info		**338**	---	---
Oil Age	hrs	Client Info		**338**	---	---
Oil Changed		Client Info		**Changed**	---	---
Sample Status				**ABNORMAL**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	---	---
Glycol		WC Method		**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	**52**	---	---
Chromium	ppm	ASTM D5185(m)	>5	**<1**	---	---
Nickel	ppm	ASTM D5185(m)	>2	**<1**	---	---
Titanium	ppm	ASTM D5185(m)		**0**	---	---
Silver	ppm	ASTM D5185(m)	>3	**<1**	---	---
Aluminum	ppm	ASTM D5185(m)	>30	**10**	---	---
Lead	ppm	ASTM D5185(m)	>30	**<1**	---	---
Copper	ppm	ASTM D5185(m)	>150	**23**	---	---
Tin	ppm	ASTM D5185(m)	>5	**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)	250	**55**	---	---
Barium	ppm	ASTM D5185(m)	10	**<1**	---	---
Molybdenum	ppm	ASTM D5185(m)	100	**32**	---	---
Manganese	ppm	ASTM D5185(m)		**7**	---	---
Magnesium	ppm	ASTM D5185(m)	450	**515**	---	---
Calcium	ppm	ASTM D5185(m)	3000	**1666**	---	---
Phosphorus	ppm	ASTM D5185(m)	1150	**748**	---	---
Zinc	ppm	ASTM D5185(m)	1350	**866**	---	---
Sulfur	ppm	ASTM D5185(m)	4250	**2109**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**10**	---	---
Sodium	ppm	ASTM D5185(m)	>158	**6**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**13**	---	---
Fuel	%	ASTM D7593*	>5	**1**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.1**	---	---
Nitration	Abs/cm	ASTM D7624*	>20	**8.5**	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.7**	---	---

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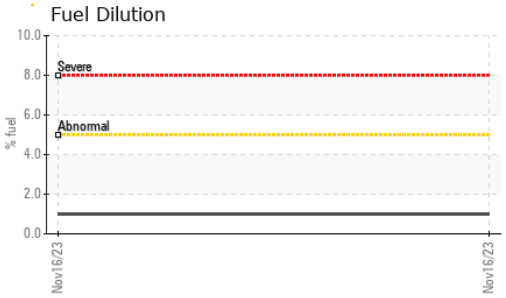
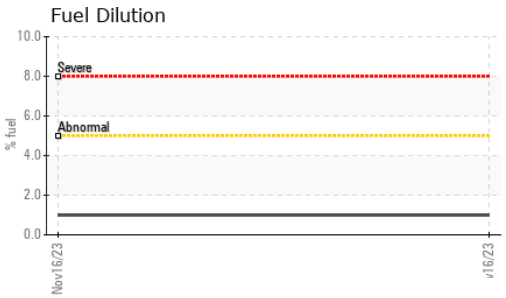


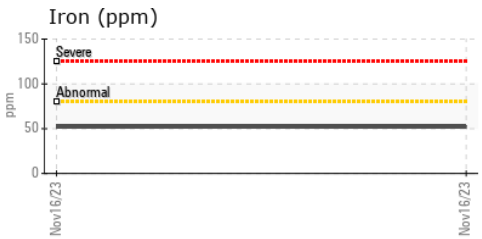


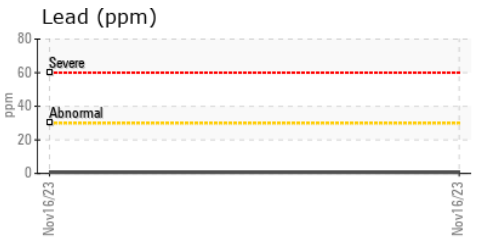
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**20.7**	---	---

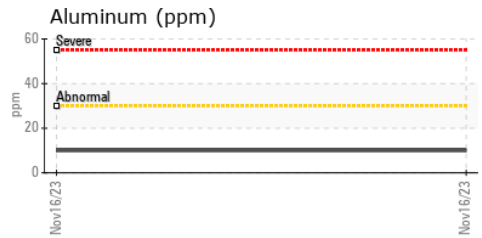
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**VLITE**	---	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	---	---
Precipitate	scalar	Visual*	NONE	**NONE**	---	---
Silt	scalar	Visual*	NONE	**NONE**	---	---
Debris	scalar	Visual*	NONE	**NONE**	---	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	---	---
Appearance	scalar	Visual*	NORML	**NORML**	---	---
Odor	scalar	Visual*	NORML	**NORML**	---	---
Emulsified Water	scalar	Visual*	>0.2	**NEG**	---	---
Free Water	scalar	Visual*		**NEG**	---	---

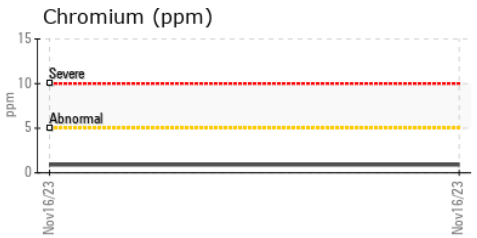
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ **9.8**	---	---

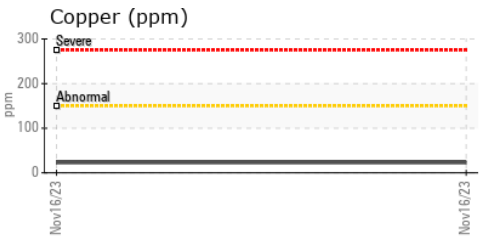
GRAPHS

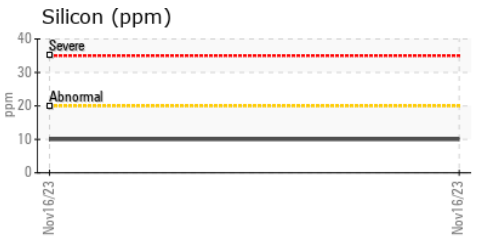


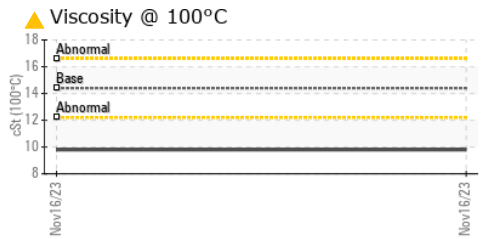












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 504 - Edmonton**
Sample No. : GFL0090747 **Received** : 23 Nov 2023
Lab Number : 02598324 **Diagnosed** : 24 Nov 2023
Unique Number : 5683404 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, Visual)

12015 28 Street NE
Edmonton, AB
CA T6S 1E2
Contact: Jerrod Adair
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T:
F:

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.