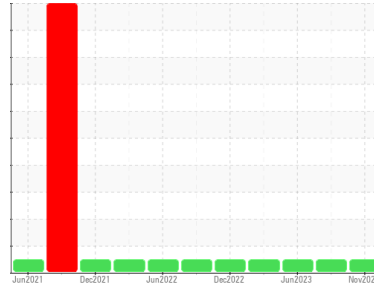




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
910069
 Component
Diesel Engine
 Fluid
CASTROL 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		GFL0093116	GFL0093113	GFL0070457
Sample Date	Client Info		28 Nov 2023	29 Aug 2023	02 Jun 2023
Machine Age	kms	Client Info	229477	214150	197946
Oil Age	kms	Client Info	0	0	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>120	14	14	14
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	0	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	4	3	4
Lead	ppm	ASTM D5185(m)	>40	<1	1	<1
Copper	ppm	ASTM D5185(m)	>330	1	1	1
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	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)		7	8	15
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		51	51	35
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)		800	798	552
Calcium	ppm	ASTM D5185(m)		1233	1318	1552
Phosphorus	ppm	ASTM D5185(m)		963	965	1024
Zinc	ppm	ASTM D5185(m)		1147	1213	1188
Sulfur	ppm	ASTM D5185(m)		2572	2397	2760
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

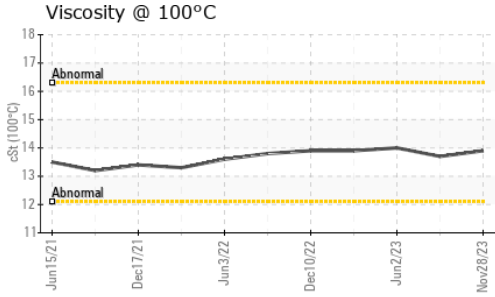
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	3	3	3
Sodium	ppm	ASTM D5185(m)	>406	1	2	2
Potassium	ppm	ASTM D5185(m)	>20	2	<1	<1

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	0.4	0.4	0.4
Nitration	Abs/cm	ASTM D7624*	>20	8.7	8.5	9.3
Sulfation	Abs./1mm	ASTM D7415*	>30	20.1	20.0	20.3



OIL ANALYSIS REPORT



FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	14.7	14.6

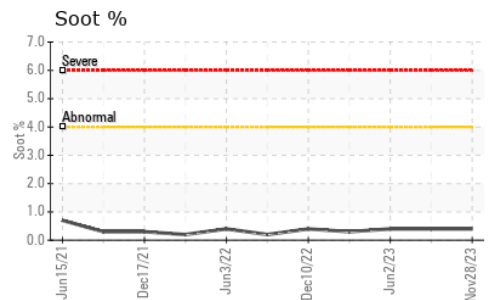
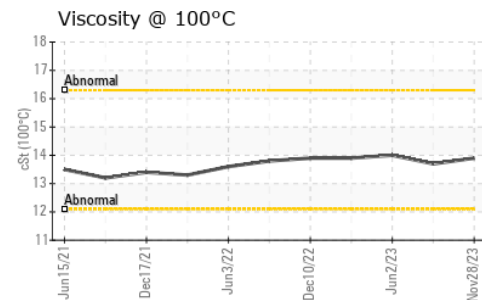
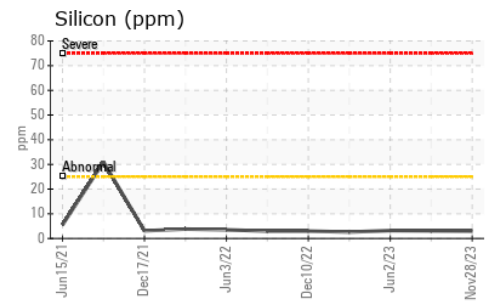
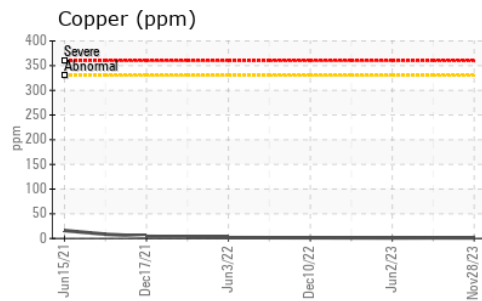
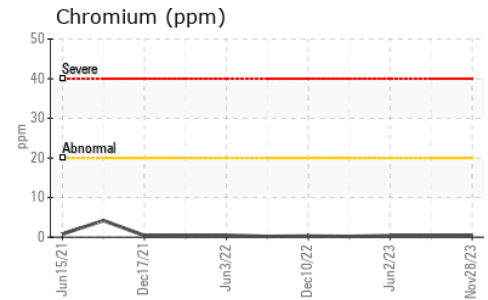
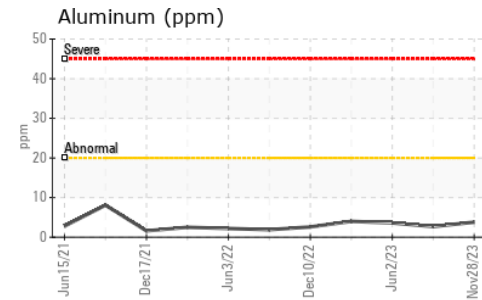
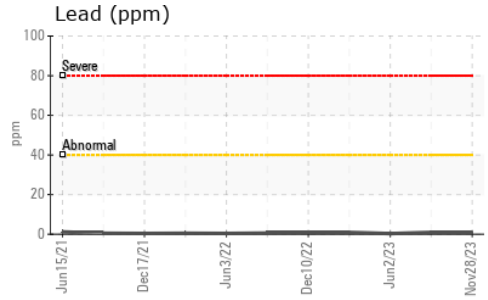
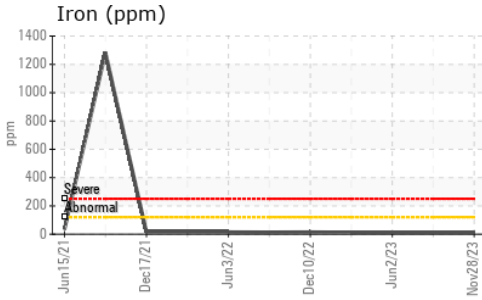
VISUAL

	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES

	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	13.9	13.7	14.0

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 860 - Fredericton
Sample No. : GFL0093116 **Recieved** : 24 Jan 2024
Lab Number : 02610842 **Diagnosed** : 24 Jan 2024
Unique Number : 5719937 **Diagnostician** : Wes Davis
Test Package : MOB 1

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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 Contact: Crystal Beach-Nassuai
 cbeachnassuai@gflenv.com

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F: