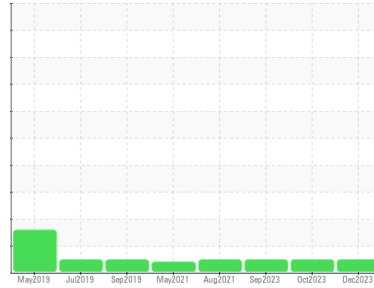




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
901143
 Component
Diesel Engine
 Fluid
CASTROL TECTION EXTRA SAE 15W-40 (--- LTR)

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		GFL0086774	GFL0042861	GFL0094450
Sample Date	Client Info		22 Dec 2023	20 Oct 2023	18 Sep 2023
Machine Age	hrs	Client Info	11572	0	90940
Oil Age	hrs	Client Info	600	0	0
Oil Changed	Client Info		Changed	N/A	N/A
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	5	3	6
Chromium	ppm	ASTM D5185(m) >20	0	0	<1
Nickel	ppm	ASTM D5185(m) >5	<1	0	0
Titanium	ppm	ASTM D5185(m) >2	<1	0	<1
Silver	ppm	ASTM D5185(m) >2	0	<1	0
Aluminum	ppm	ASTM D5185(m) >20	4	3	4
Lead	ppm	ASTM D5185(m) >40	<1	<1	2
Copper	ppm	ASTM D5185(m) >330	<1	<1	<1
Tin	ppm	ASTM D5185(m) >15	<1	0	<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) 30	33	45	23
Barium	ppm	ASTM D5185(m)	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	87	85	83
Manganese	ppm	ASTM D5185(m)	0	0	<1
Magnesium	ppm	ASTM D5185(m) 110	71	61	40
Calcium	ppm	ASTM D5185(m) 2740	2142	2113	2203
Phosphorus	ppm	ASTM D5185(m) 1240	934	936	1021
Zinc	ppm	ASTM D5185(m) 1350	1141	1123	1165
Sulfur	ppm	ASTM D5185(m) 3520	2926	2869	2848
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

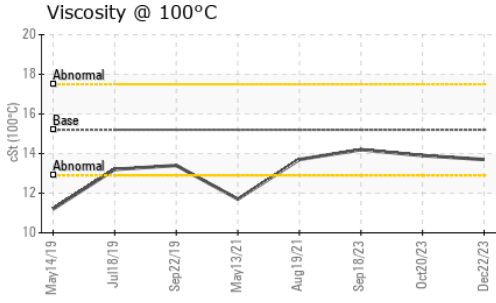
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	4	3	5
Sodium	ppm	ASTM D5185(m)	4	3	5
Potassium	ppm	ASTM D5185(m) >20	2	<1	<1

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >4	0.3	0.1	0.4
Nitration	Abs/cm	ASTM D7624* >20	10.0	8.5	9.6
Sulfation	Abs./1mm	ASTM D7415* >30	20.8	18.8	20.6



OIL ANALYSIS REPORT

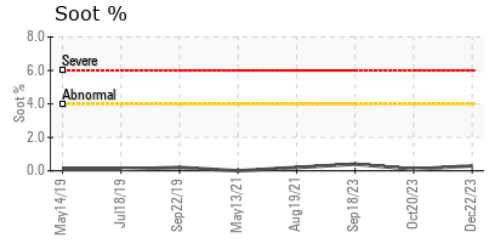
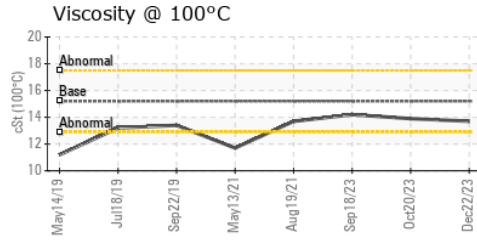
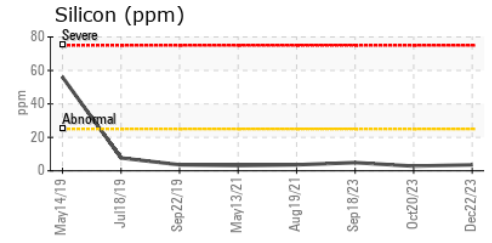
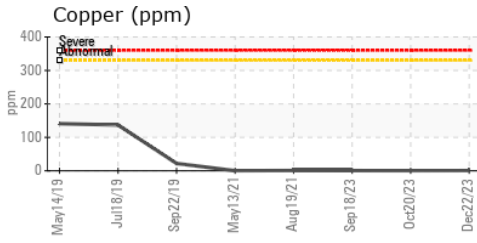
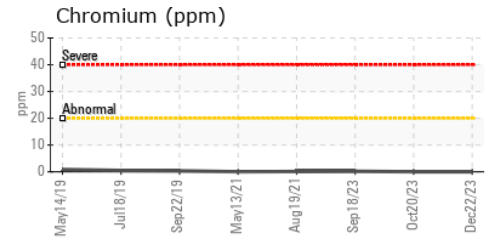
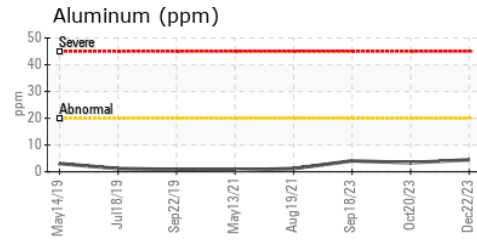
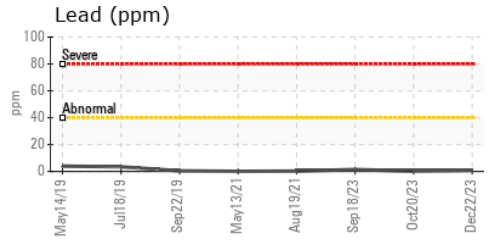
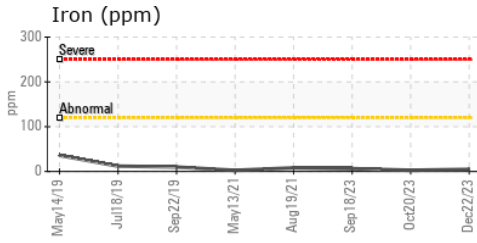


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	16.3	14.1	15.5

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*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.2	13.7	13.9	14.2

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0086774
Lab Number : 02605190
Unique Number : 5698275
Test Package : MOB 1 (Additional Tests: Visual)

GFL Environmental - 222 - Sandhill
 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCER ROAD
 ORANGEVILLE, ON
 CA L9W 3X5
 Contact: GLENN COOK
 gcook@gflenv.com
 T: (519)940-4167
 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.