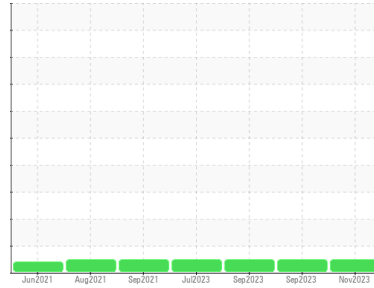




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
910077
 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		GFL0094378	GFL0042859	GFL0094452
Sample Date	Client Info		30 Nov 2023	29 Sep 2023	18 Sep 2023
Machine Age	hrs	Client Info	6435	0	1428
Oil Age	hrs	Client Info	0	0	1428
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	10	3	12
Chromium	ppm	ASTM D5185(m)	>20	0	0	<1
Nickel	ppm	ASTM D5185(m)	>5	<1	0	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	3	2	3
Lead	ppm	ASTM D5185(m)	>40	<1	<1	2
Copper	ppm	ASTM D5185(m)	>330	2	2	18
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	28	54	15
Barium	ppm	ASTM D5185(m)		<1	0	0
Molybdenum	ppm	ASTM D5185(m)		87	86	80
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)	110	124	67	108
Calcium	ppm	ASTM D5185(m)	2740	2075	2112	2082
Phosphorus	ppm	ASTM D5185(m)	1240	932	929	1001
Zinc	ppm	ASTM D5185(m)	1350	1152	1133	1154
Sulfur	ppm	ASTM D5185(m)	3520	2762	2975	2549
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

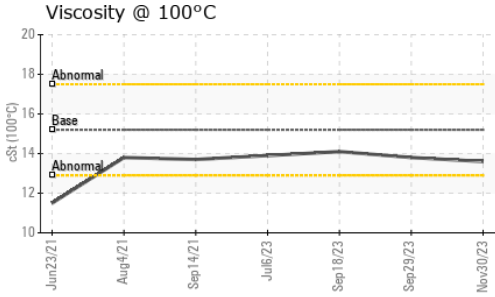
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	3	3	4
Sodium	ppm	ASTM D5185(m)		3	3	5
Potassium	ppm	ASTM D5185(m)	>20	0	1	<1

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	0.4	0.1	0.4
Nitration	Abs/cm	ASTM D7624*	>20	10.1	8.0	9.7
Sulfation	Abs./1mm	ASTM D7415*	>30	20.6	18.0	20.4



OIL ANALYSIS REPORT

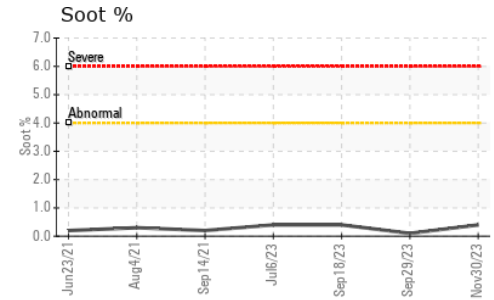
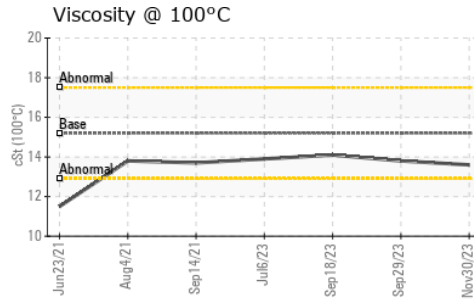
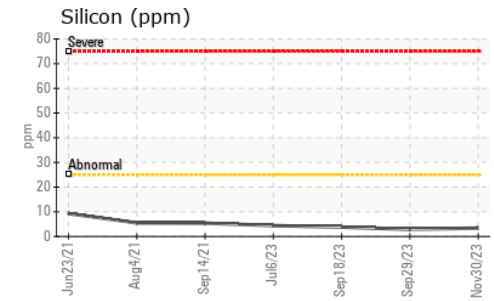
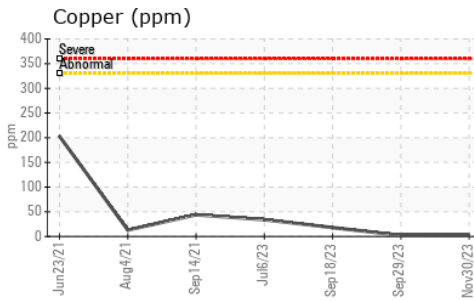
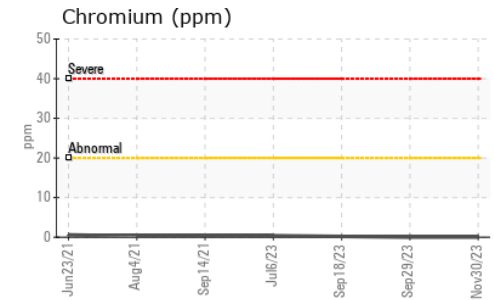
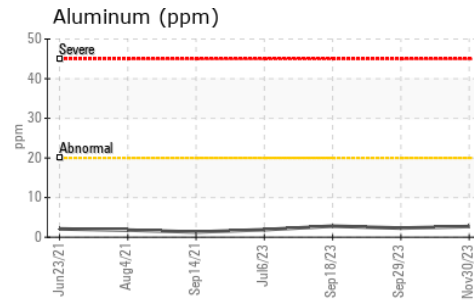
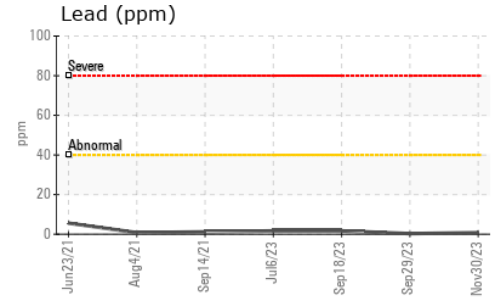
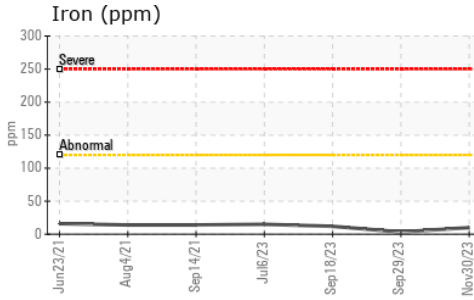


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	15.4	13.0	16.2

VISUAL		method	limit/base	current	history1	history2
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	13.6	13.8	14.1

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0094378
Lab Number : **02600023**
Unique Number : 5685103
Test Package : MOB 1

GFL Environmental - 222 - Sandhill
 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE 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.