

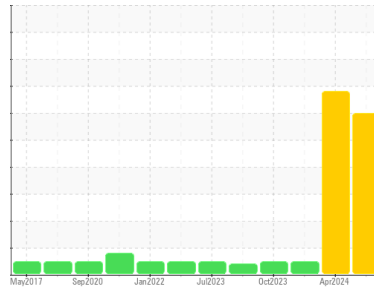


OIL ANALYSIS REPORT



Machine Id
4707
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (42 LTR)

Sample Rating Trend



WEAR



DIAGNOSIS

Recommendation
 The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
 Aluminum ppm levels are severe. Piston wear is indicated.

Contamination
 There is no indication of any contamination in the oil.

Fluid Condition
 The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0118909	GFL0094447	GFL0086791
Sample Date	Client Info		07 May 2024	05 Apr 2024	31 Jan 2024
Machine Age	hrs	Client Info	16920	16785	283393
Oil Age	hrs	Client Info	16920	600	283393
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	SEVERE	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	36	▲ 96	7
Chromium	ppm	ASTM D5185(m) >20	<1	<1	0
Nickel	ppm	ASTM D5185(m) >15	<1	1	0
Titanium	ppm	ASTM D5185(m) >2	<1	<1	<1
Silver	ppm	ASTM D5185(m) >3	0	0	0
Aluminum	ppm	ASTM D5185(m) >20	▲ 128	▲ 136	4
Lead	ppm	ASTM D5185(m) >40	0	0	2
Copper	ppm	ASTM D5185(m) >330	4	3	<1
Tin	ppm	ASTM D5185(m) >15	0	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) 250	65	43	26
Barium	ppm	ASTM D5185(m) 10	0	0	0
Molybdenum	ppm	ASTM D5185(m) 100	88	89	85
Manganese	ppm	ASTM D5185(m)	<1	<1	0
Magnesium	ppm	ASTM D5185(m) 450	81	97	93
Calcium	ppm	ASTM D5185(m) 3000	2126	2104	2076
Phosphorus	ppm	ASTM D5185(m) 1150	1005	1002	965
Zinc	ppm	ASTM D5185(m) 1350	1146	1189	1107
Sulfur	ppm	ASTM D5185(m) 4250	3145	3073	3089
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

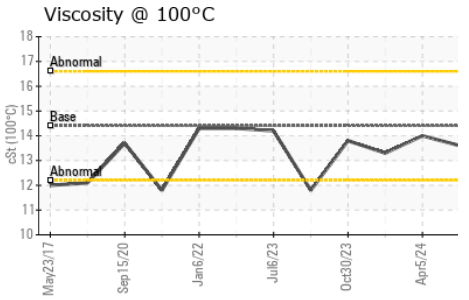
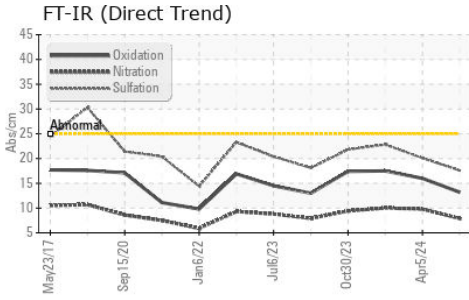
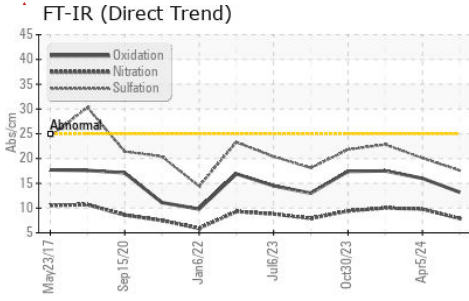
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >25	17	21	3
Sodium	ppm	ASTM D5185(m) >158	2	4	3
Potassium	ppm	ASTM D5185(m) >20	0	1	1

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >4	0	0.2	0.2
Nitration	Abs/cm	ASTM D7624* >20	7.9	9.8	10.0
Sulfation	Abs./1mm	ASTM D7415* >30	17.6	20.1	22.8



OIL ANALYSIS REPORT

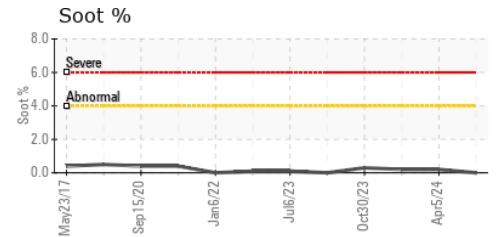
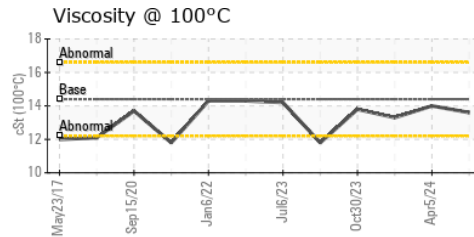
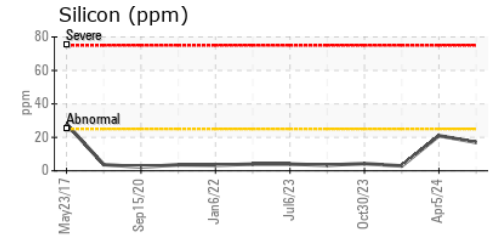
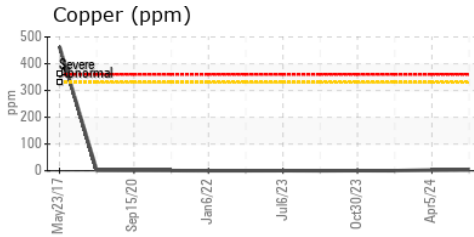
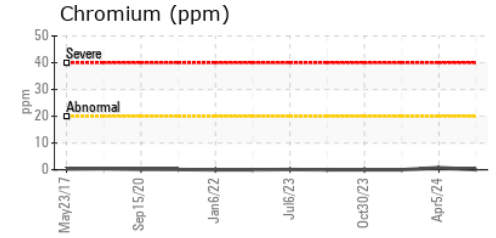
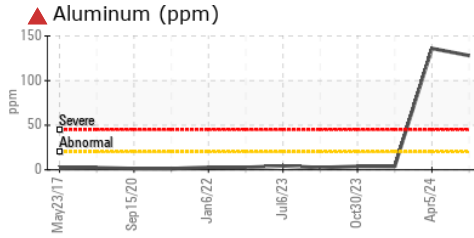
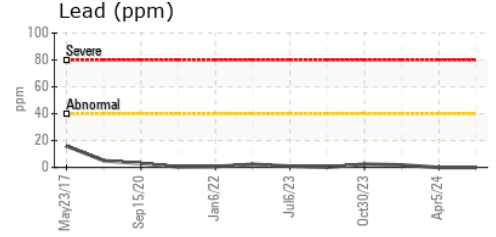
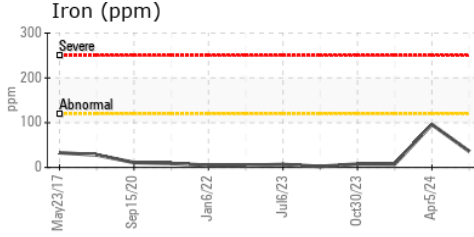


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	13.2	16.0	17.5

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	VLITE	VLITE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	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)	14.4	13.6	14.0	13.3

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0118909
Lab Number : **02634046**
Unique Number : 5775199
Test Package : MOB 1 (Additional Tests: Visual)

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.