WEAR CONTAMINATION FLUID CONDITION

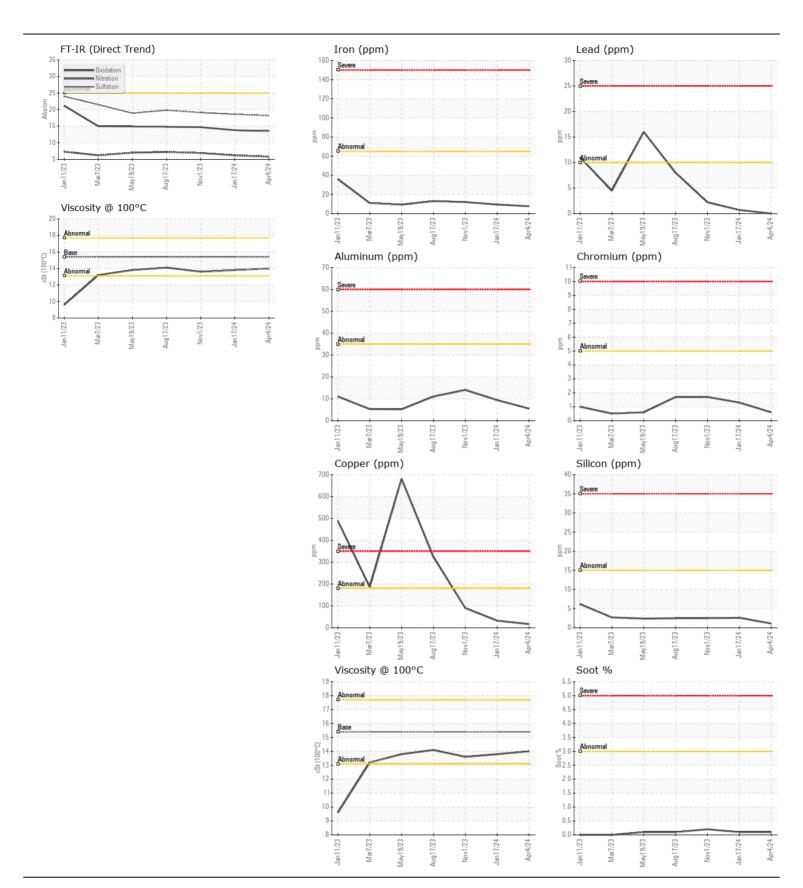
NORMAL NORMAL

[1254409]
Machine Id
112019
Component

Diesel Engine

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		GFL0110691	GFL0110702	GFL009452
	Sample Date		Client Info		04 Apr 2024	17 Jan 2024	01 Nov 2020
	Machine Age	hrs	Client Info		3896	3415	2825
	Oil Age	hrs	Client Info		0	0	0
	Filter Age	hrs	Client Info		0	0	0
	Oil Changed		Client Info		Changed	Changed	N/A
	Filter Changed		Client Info		Changed	Changed	N/A
	Sample Status				NORMAL	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185(m)	>65	8	9	12
All component wear rates are normal.	Chromium	ppm	ASTM D5185(m)	>5	<1	1	2
	Nickel	ppm	ASTM D5185(m)	>3	0	<1	<1
	Titanium	ppm	ASTM D5185(m)	>5	0	0	0
	Silver	ppm	ASTM D5185(m)	>2	0	0	<1
	Aluminum	ppm	ASTM D5185(m)	>35	6	9	14
	Lead	ppm	ASTM D5185(m)	>10	0	<1	2
	Copper	ppm	ASTM D5185(m)	>180	17	32	90
	Tin	ppm	ASTM D5185(m)	>8	<1	2	2
	Vanadium	ppm	ASTM D5185(m)		0	0	0
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>15	1	3	2
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. There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185(m)	>20	8	14	26
	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
	Soot %	%	ASTM D7844*	>3	0.1	0.1	0.2
	Nitration	Abs/cm	ASTM D7624*	>20	5.8	6.2	6.9
	Sulfation	Abs/.1mm	ASTM D7415*	>30	18.2	18.6	19.1
	Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)		1	1	2
The condition of the oil is acceptable for the time in service.	Boron	ppm	ASTM D5185(m)	0	3	1	2
	Barium	ppm	ASTM D5185(m)	0	0	0	<1
	Molybdenum	ppm	ASTM D5185(m)	60	58	58	58
	Manganese	ppm	ASTM D5185(m)	0	0	0	0
	Magnesium	ppm	ASTM D5185(m)	1010	966	963	966
	Calcium	ppm	ASTM D5185(m)	1070	1021	1086	1055
	Phosphorus	ppm	ASTM D5185(m)	1150	980	1005	991
	Zinc	ppm	ASTM D5185(m)	1270	1186	1185	1217
	Sulfur	ppm	ASTM D5185(m)	2060	2525	2631	2286
	Oxidation	Abs/.1mm	ASTM D7414*		13.5	13.8	14.7
	Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.0	13.8	13.6

Submitted By: Shane Cater





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: GFL0110691 Lab Number : 02627210

Unique Number : 5760342 Test Package : MOB 1

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received : 08 Apr 2024 **Tested** : 08 Apr 2024

: 08 Apr 2024 - Wes Davis Diagnosed

GFL Environmental - 207 - Pickering SW 1034 TOY AVENUE, PICKERING YARD PICKERING, ON CA L1W 3P1 Contact: Ian Patton ipatton@gflenv.com

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.

T: (905)831-6297

F: (905)426-3577