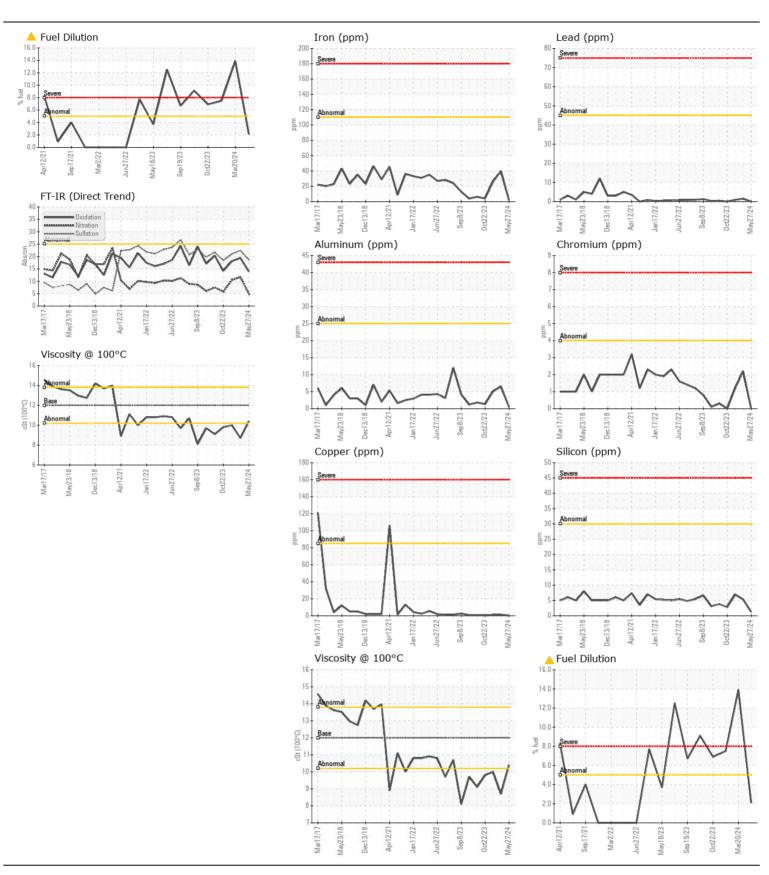
WEAR CONTAMINATION **FLUID CONDITION**

NORMAL MARGINAL NORMAL

Machine Id 9973

Component
Diesel Engine

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.	Sample Number		Client Info		GFL0119007	GFL0102673	GFL010264
	Sample Date		Client Info		27 May 2024	20 Mar 2024	07 Jan 202
	Machine Age	hrs	Client Info		24767	29231	28678
	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				MARGINAL	SEVERE	ABNORMA
WEAR	Iron	ppm	ASTM D5185(m)	>110	2	40	26
All component wear rates are normal.	Chromium	ppm	ASTM D5185(m)		0	2	1
	Nickel	ppm	ASTM D5185(m)	>2	0	0	<1
	Titanium	ppm	ASTM D5185(m)		0	0	0
	Silver	ppm	ASTM D5185(m)	>2	0	0	0
	Aluminum	ppm	ASTM D5185(m)	>25	<1	6	5
	Lead	ppm	ASTM D5185(m)	>45	0	1	<1
	Copper	ppm	ASTM D5185(m)	>85	<1	1	1
	Tin	ppm	ASTM D5185(m)	>4	0	0	0
	Vanadium	ppm	ASTM D5185(m)		0	0	0
CONTAMINATION	Silicon	ppm	ASTM D5185(m)	>30	1	5	7
Light fuel dilution occurring. No other contaminants were detected in the oil.	Potassium	ppm	ASTM D5185(m)	>20	0	9	6
	Fuel	%	ASTM D7593*	>5	<u> </u>	1 3.9	▲ 7.5
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	0.0	0.0
	Soot %	%	ASTM D7844*	>3	0	1.2	0.6
	Nitration	Abs/cm	ASTM D7624*	>20	4.9	11.7	10.5
	Sulfation	Abs/.1mm	ASTM D7415*	>30	18.6	22.4	21.0
	Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185(m)		6	46	36
The condition of the oil is acceptable for the time in service.	Boron	ppm	ASTM D5185(m)	2	2	2	5
	Barium	ppm	ASTM D5185(m)	0	0	0	0
	Molybdenum	ppm	ASTM D5185(m)	50	52	50	56
	Manganese	ppm	ASTM D5185(m)	0	0	0	0
	Magnesium	ppm	ASTM D5185(m)	950	865	788	853
	Calcium	ppm	ASTM D5185(m)	1050	935	858	965
	Phosphorus	ppm		995	919	798	910
	Zinc	ppm	ASTM D5185(m)	1180	1042	960	1061
	Sulfur Oxidation	ppm Abs/.1mm	ASTM D5185(m) ASTM D7414*	2600	2345 13.9	1999 19.4	2437 18.1





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: GFL0119007 Lab Number : 02638393

Unique Number : 5787555

Received **Tested** Diagnosed

: 30 May 2024 : 30 May 2024 - Wes Davis

Test Package: MOB 1 (Additional Tests: PercentFuel) 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.

: 29 May 2024

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 554 - Edmonton SW 8409 -15th Street NW Edmonton, AB CA T6P 0B8 Contact: Tim Greig tgreig@gflenv.com T: (780)231-0521