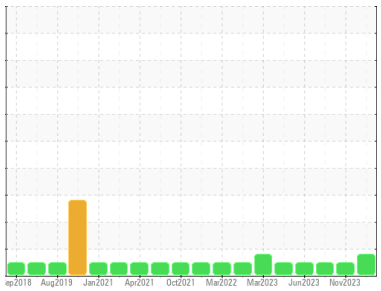
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
910038
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (25 LTR)

DIAGNOSIS

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

Wear
Nickel ppm levels are abnormal. Exhaust valve 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		**GFL0111759**	WC0875069	GFL0094223
Sample Date		Client Info		**08 Feb 2024**	20 Nov 2023	07 Sep 2023
Machine Age	hrs	Client Info		**8461**	139156	6764
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	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)	>90	**9**	11	12
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	▲ **5**	2	4
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**<1**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	**3**	2	2
Lead	ppm	ASTM D5185(m)	>40	**<1**	1	2
Copper	ppm	ASTM D5185(m)	>330	**2**	2	11
Tin	ppm	ASTM D5185(m)	>15	**0**	<1	<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	**14**	2	3
Barium	ppm	ASTM D5185(m)	10	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	100	**61**	62	61
Manganese	ppm	ASTM D5185(m)		**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	450	**933**	995	998
Calcium	ppm	ASTM D5185(m)	3000	**1078**	1118	1084
Phosphorus	ppm	ASTM D5185(m)	1150	**1013**	989	1015
Zinc	ppm	ASTM D5185(m)	1350	**1188**	1236	1212
Sulfur	ppm	ASTM D5185(m)	4250	**2616**	2311	2227
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**3**	2	4
Sodium	ppm	ASTM D5185(m)	>158	**1**	2	5
Potassium	ppm	ASTM D5185(m)	>20	**3**	1	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**0.3**	0.5	0.4
Nitration	Abs/cm	ASTM D7624*	>20	**9.2**	9.3	8.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	**20.8**	21.2	19.9

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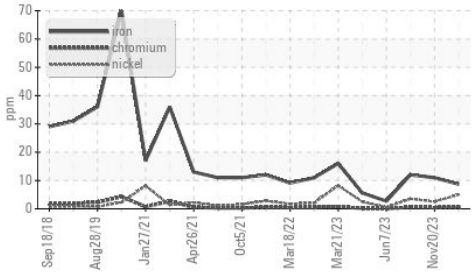
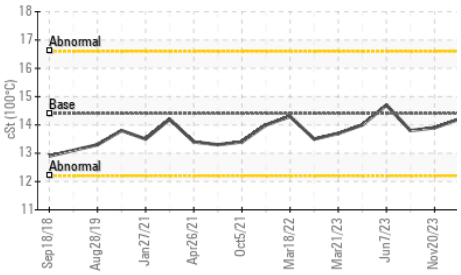
Ferrous Alloys



Viscosity @ 100°C



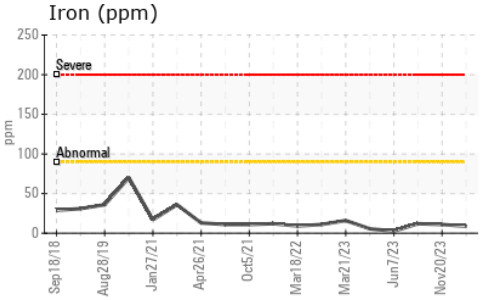
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**16.2**	16.9	16.0

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

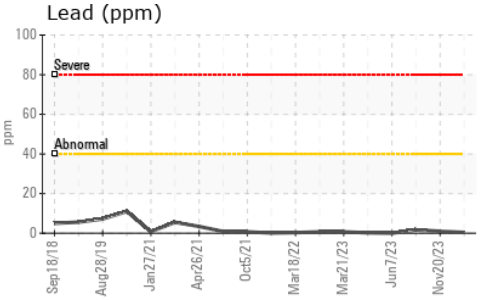
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	**14.2**	13.9	13.8

GRAPHS

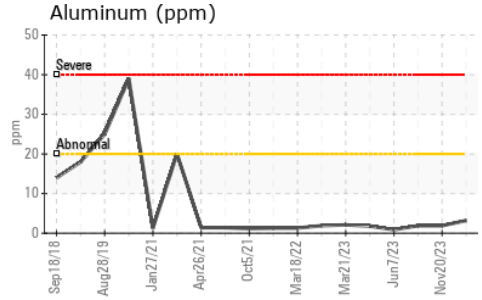
Iron (ppm)



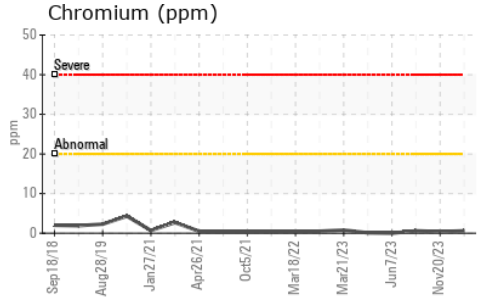
Lead (ppm)



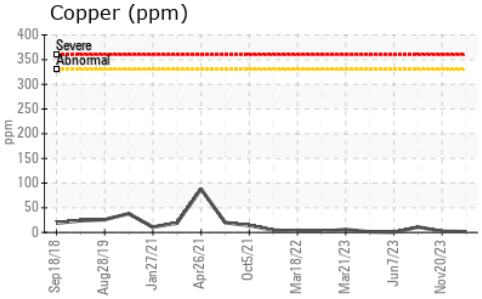
Aluminum (ppm)



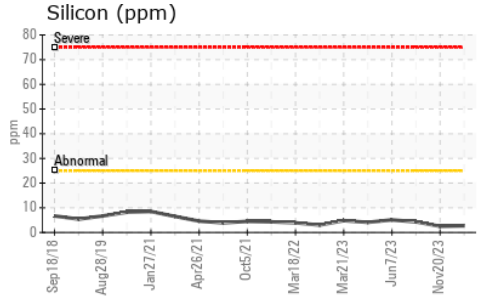
Chromium (ppm)



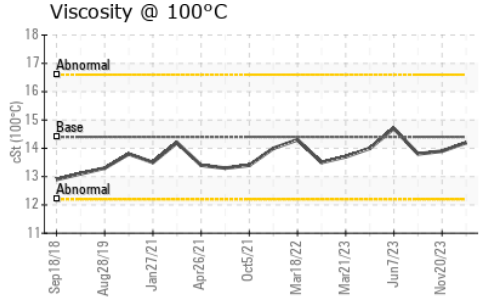
Copper (ppm)



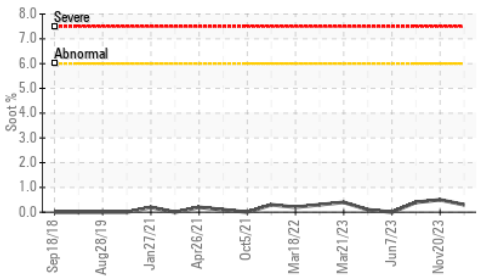
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0111759
Lab Number : 02614921
Unique Number : 5724016
Test Package : MOB 1

Received : 12 Feb 2024
Tested : 12 Feb 2024
Diagnosed : 13 Feb 2024 - Kevin Marson

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.

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