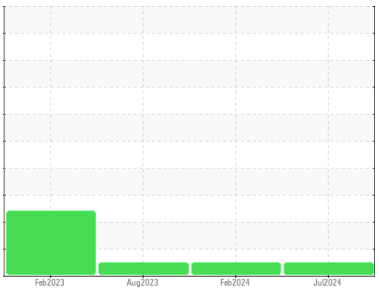
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
931051
Component
Natural Gas Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

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		**GFL0119244**	GFL0102934	GFL0087010
Sample Date		Client Info		**17 Jul 2024**	06 Feb 2024	04 Aug 2023
Machine Age	hrs	Client Info		**4616**	3557	2373
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	**21**	27	30
Chromium	ppm	ASTM D5185(m)	>4	**2**	2	2
Nickel	ppm	ASTM D5185(m)	>2	**<1**	1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	1
Silver	ppm	ASTM D5185(m)	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>9	**5**	8	7
Lead	ppm	ASTM D5185(m)	>30	**10**	17	6
Copper	ppm	ASTM D5185(m)	>35	**2**	3	4
Tin	ppm	ASTM D5185(m)	>4	**<1**	2	1
Antimony	ppm	ASTM D5185(m)		**<1**	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	**7**	6	7
Barium	ppm	ASTM D5185(m)	10	**<1**	0	<1
Molybdenum	ppm	ASTM D5185(m)	100	**57**	56	58
Manganese	ppm	ASTM D5185(m)		**1**	1	2
Magnesium	ppm	ASTM D5185(m)	450	**609**	607	621
Calcium	ppm	ASTM D5185(m)	3000	**1798**	1800	1660
Phosphorus	ppm	ASTM D5185(m)	1150	**747**	807	744
Zinc	ppm	ASTM D5185(m)	1350	**976**	988	981
Sulfur	ppm	ASTM D5185(m)	4250	**2071**	2146	1977
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

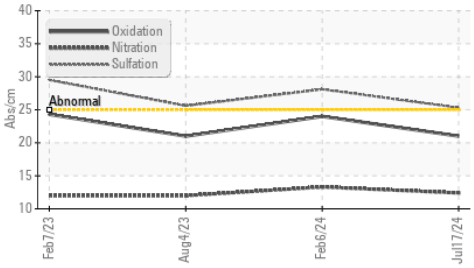
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>+100	**5**	6	8
Sodium	ppm	ASTM D5185(m)	>158	**10**	11	10
Potassium	ppm	ASTM D5185(m)	>20	**9**	10	11

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**12.4**	13.3	12.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**25.3**	28.1	25.6

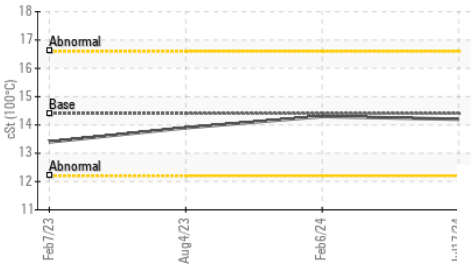
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**21.0**	24.0	21.0

OIL ANALYSIS REPORT

FT-IR (Direct Trend)



Viscosity @ 100°C

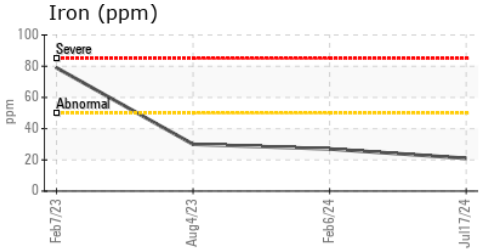


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**VLITE**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	---
Silt	scalar	Visual*	NONE	**NONE**	NONE	---
Debris	scalar	Visual*	NONE	**NONE**	VLITE	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	---
Appearance	scalar	Visual*	NORML	**NORML**	NORML	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

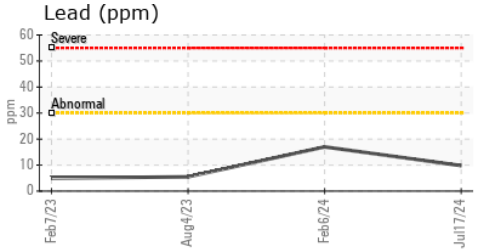
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	**14.2**	14.3	13.9

GRAPHS

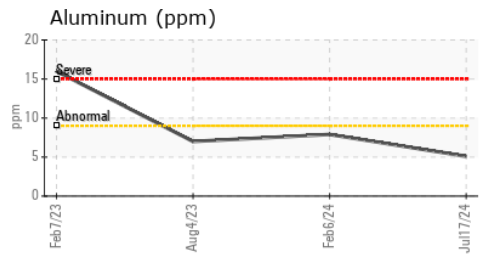
Iron (ppm)



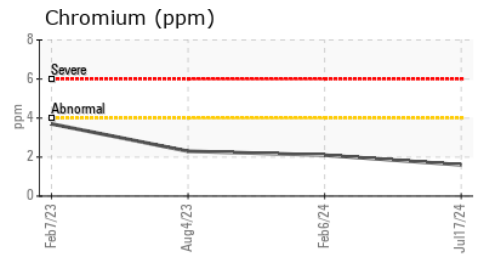
Lead (ppm)



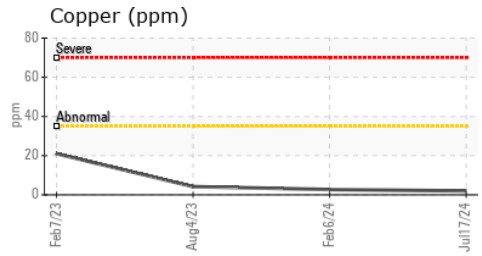
Aluminum (ppm)



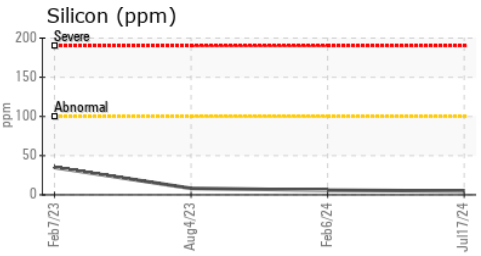
Chromium (ppm)



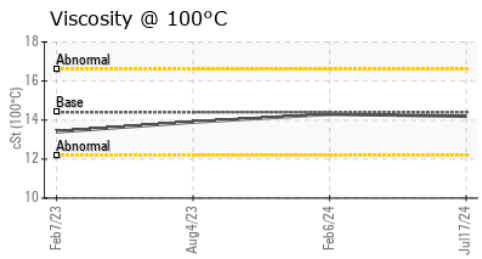
Copper (ppm)



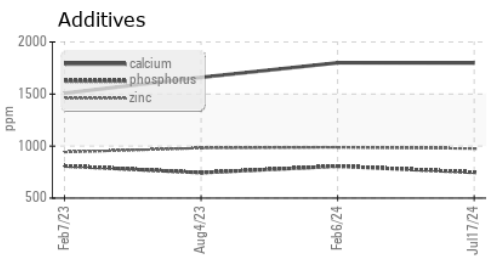
Silicon (ppm)



Viscosity @ 100°C



Additives



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0119244
Lab Number : 02648867
Unique Number : 5814419
Test Package : MOB 1 (Additional Tests: Visual)

Received : 19 Jul 2024
Tested : 19 Jul 2024
Diagnosed : 19 Jul 2024 - Wes Davis

GFL Environmental - 253 - TOR APT
15 Bermondsey Road - Building B
Toronto, ON
CA M4B 1Y9
Contact: Natalia Stalynska
nstalynska@gflenv.com
T:
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.