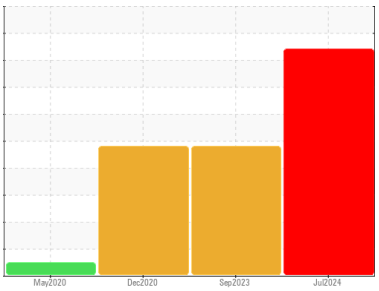
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
229004
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (10 LTR)

DIAGNOSIS

Recommendation
We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
Fuel content negligible. Test for glycol is positive. There is a high concentration of glycol present in the oil. There is a moderate concentration of water present in the oil.

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0113250**	GFL0090852	GFL0011775
Sample Date		Client Info		**09 Jul 2024**	05 Sep 2023	06 Dec 2020
Machine Age	kms	Client Info		**480728**	0	0
Oil Age	kms	Client Info		**10655**	10626	0
Oil Changed		Client Info		**Changed**	N/A	N/A
Sample Status				**SEVERE**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**24**	36	17
Chromium	ppm	ASTM D5185(m)	>20	**0**	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)		**<1**	<1	21
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**1**	2	5
Lead	ppm	ASTM D5185(m)	>40	**<1**	<1	4
Copper	ppm	ASTM D5185(m)	>330	**6**	4	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	<1
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	**4**	5	12
Barium	ppm	ASTM D5185(m)	10	**0**	0	<1
Molybdenum	ppm	ASTM D5185(m)	100	**14**	57	53
Manganese	ppm	ASTM D5185(m)		**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	**115**	910	980
Calcium	ppm	ASTM D5185(m)	3000	**1746**	1028	1324
Phosphorus	ppm	ASTM D5185(m)	1150	**778**	1013	1134
Zinc	ppm	ASTM D5185(m)	1350	**934**	1136	1416
Sulfur	ppm	ASTM D5185(m)	4250	**2678**	2559	2828
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**3**	6	5
Sodium	ppm	ASTM D5185(m)	>216	● **59**	● 57	● 25
Potassium	ppm	ASTM D5185(m)	>20	▲ **34**	▲ 54	▲ 36
Fuel	%	ASTM D7593*	>5	**0.2**	<1.0	<1.0
Water	%	ASTM D6304*	>0.2	**NEG**	NEG	NEG
Glycol	%	ASTM D7922*		▲ **0.441**	▲ 0.057	▲ 0.079

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.4**	0.3	1.4
Nitration	Abs/cm	ASTM D7624*	>20	**6.6**	8.0	13.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	**15.6**	20.7	25.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**10.4**	15.3	21.9

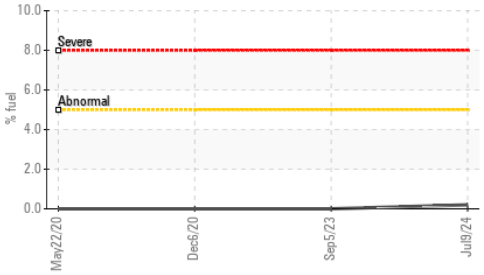
OIL ANALYSIS REPORT

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	▲ .2%	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

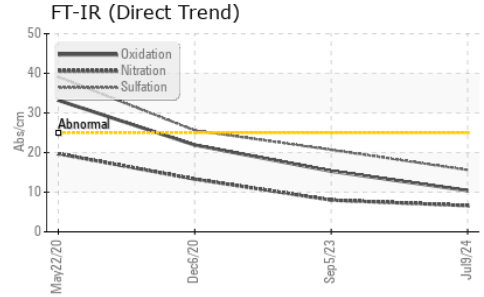
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	**11.9**	14.1	13.5

GRAPHS

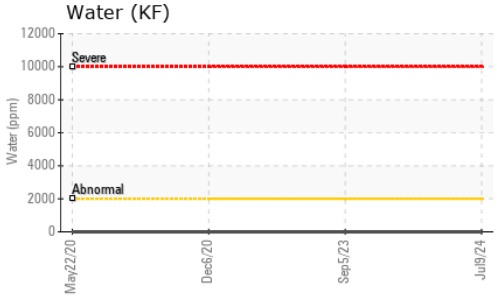
Fuel Dilution



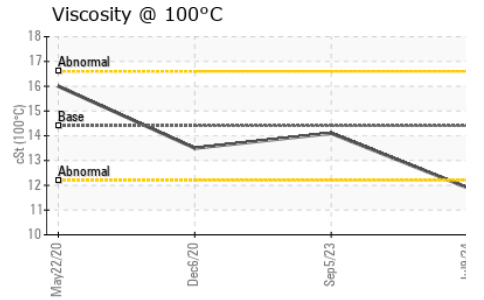
FT-IR (Direct Trend)



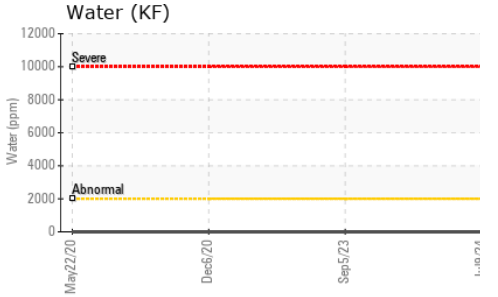
Water (KF)



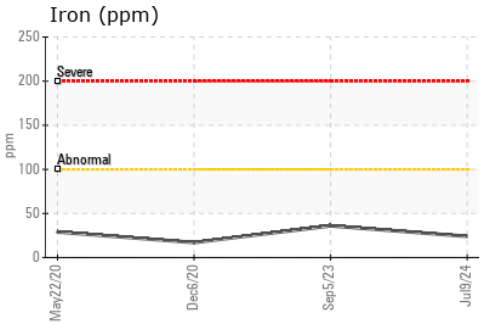
Viscosity @ 100°C



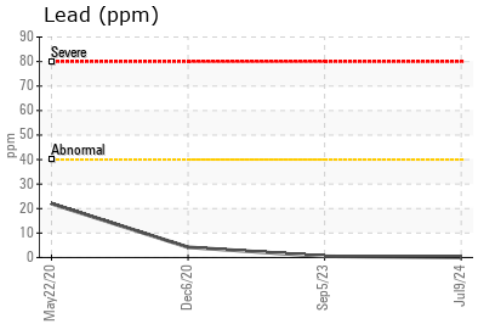
Water (KF)



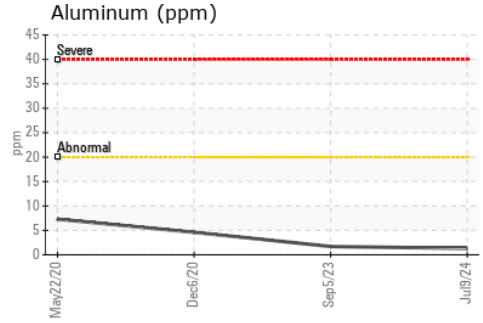
Iron (ppm)



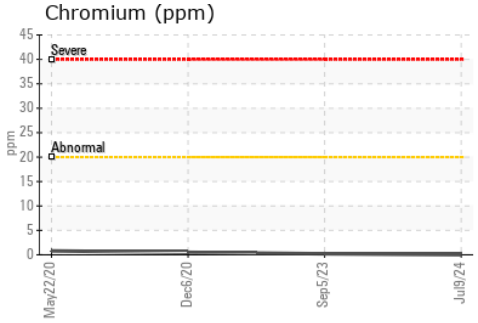
Lead (ppm)



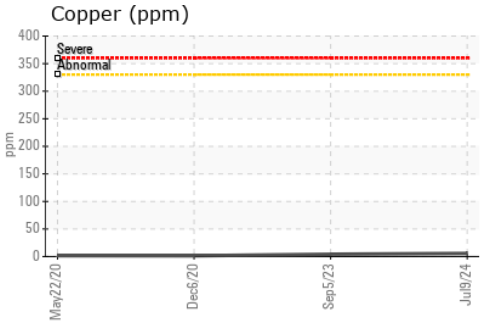
Aluminum (ppm)



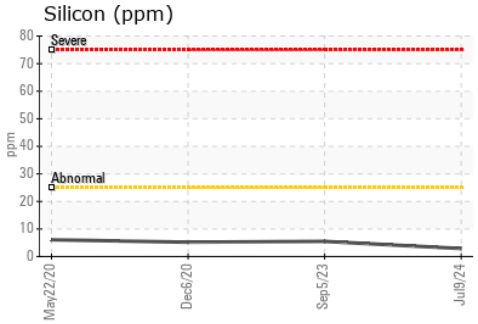
Chromium (ppm)



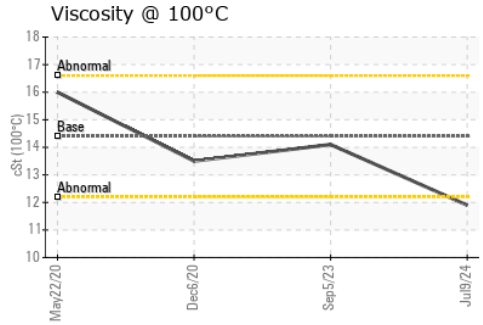
Copper (ppm)



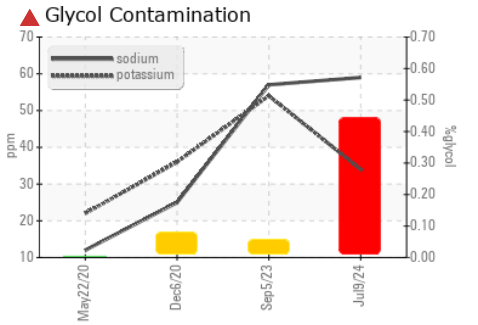
Silicon (ppm)



Viscosity @ 100°C



▲ Glycol Contamination



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0113250
Lab Number : 02646869
Unique Number : 5812421
Test Package : MOB 1 (Additional Tests: FuelDilution, KF, PercentFuel)

Received : 10 Jul 2024
Tested : 11 Jul 2024
Diagnosed : 11 Jul 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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Report Id: GFL246 [WCAMIS] 02646869 (Generated: 07/11/2024 11:14:55) Rev: 1

Submitted By: Dave Varga