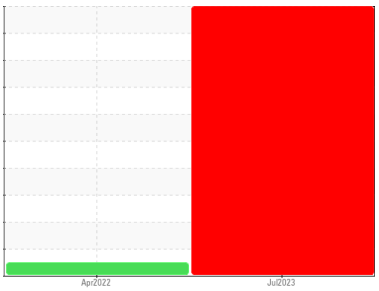
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
9148
Component
Natural Gas Engine
Fluid
RDL-3647 (27 LTR)

DIAGNOSIS

Recommendation

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

Wear

Chromium and iron ppm levels are severe. Nickel and aluminum ppm levels are abnormal. Cylinder, crank, or cam shaft wear is indicated. Ring wear is indicated. Exhaust valve wear is indicated. Piston wear is indicated. A cylinder ring may be cracked or broken.

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		**GFL0074287**	GFL0049943	---
Sample Date		Client Info		**11 Jul 2023**	20 Apr 2022	---
Machine Age	hrs	Client Info		**17014**	14567	---
Oil Age	hrs	Client Info		**2447**	32	---
Oil Changed		Client Info		**Changed**	Changed	---
Sample Status				**SEVERE**	NORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	---	---
Iron	ppm	ASTM D5185(m)	>50	⬢ **110**	8	---
Chromium	ppm	ASTM D5185(m)	>4	⬢ **7**	<1	---
Nickel	ppm	ASTM D5185(m)	>2	▲ **3**	<1	---
Titanium	ppm	ASTM D5185(m)		**<1**	0	---
Silver	ppm	ASTM D5185(m)	>3	**<1**	<1	---
Aluminum	ppm	ASTM D5185(m)	>9	▲ **21**	2	---
Lead	ppm	ASTM D5185(m)	>30	**18**	1	---
Copper	ppm	ASTM D5185(m)	>35	**223**	10	---
Tin	ppm	ASTM D5185(m)	>4	**2**	<1	---
Antimony	ppm	ASTM D5185(m)		**0**	0	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**0**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	50	**4**	59	---
Barium	ppm	ASTM D5185(m)	5	**0**	<1	---
Molybdenum	ppm	ASTM D5185(m)	50	**59**	55	---
Manganese	ppm	ASTM D5185(m)	0	**4**	<1	---
Magnesium	ppm	ASTM D5185(m)	560	**657**	554	---
Calcium	ppm	ASTM D5185(m)	1510	**1668**	1400	---
Phosphorus	ppm	ASTM D5185(m)	780	**996**	751	---
Zinc	ppm	ASTM D5185(m)	870	**947**	819	---
Sulfur	ppm	ASTM D5185(m)	2040	**1939**	2080	---
Lithium	ppm	ASTM D5185(m)		**<1**	0	---

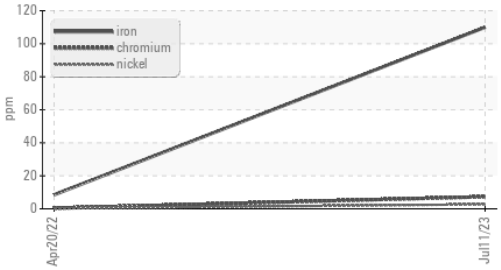
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>+100	**10**	10	---
Sodium	ppm	ASTM D5185(m)		**10**	7	---
Potassium	ppm	ASTM D5185(m)	>20	**<1**	1	---
Glycol	%	ASTM D7922*		**0.0**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	---
Nitration	Abs/cm	ASTM D7624*	>20	**13.6**	6.8	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**35.8**	20.3	---

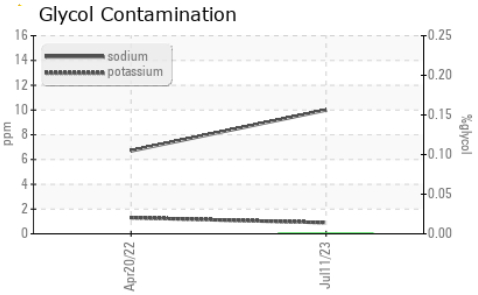
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**36.0**	15.0	---

OIL ANALYSIS REPORT

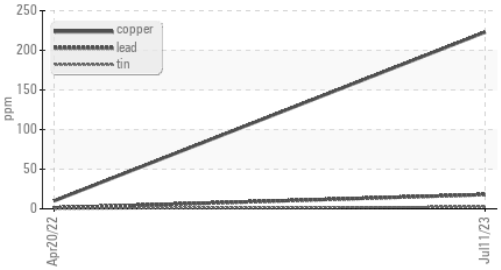
Ferrous Alloys



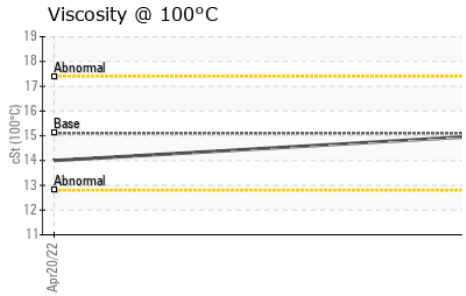
Glycol Contamination



Non-ferrous Metals



Viscosity @ 100°C



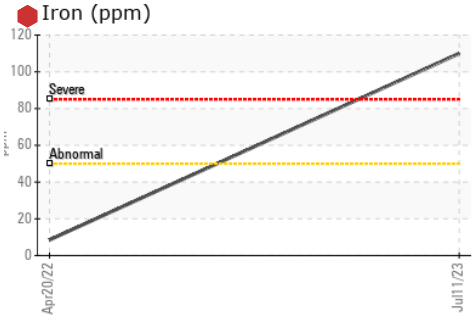
PQ

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	---
Free Water	scalar	Visual*		**NEG**	NEG	---

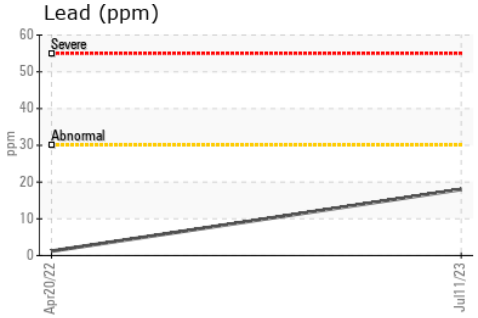
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.1	**15.0**	14.0	---

GRAPHS

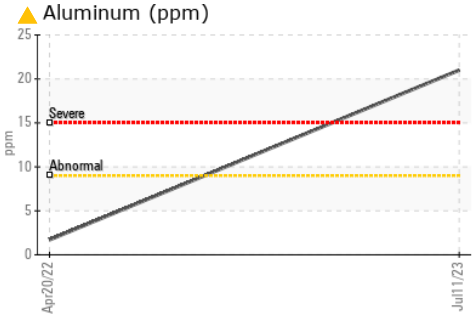
Iron (ppm)



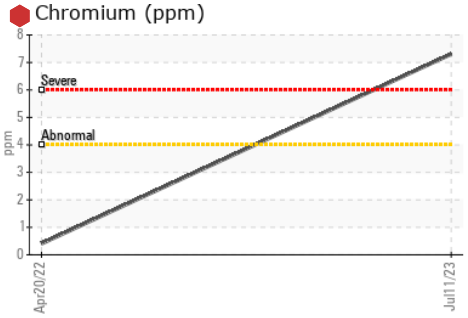
Lead (ppm)



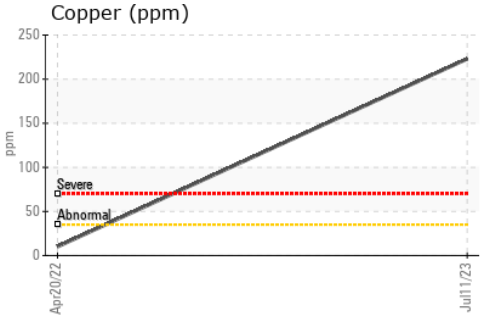
Aluminum (ppm)



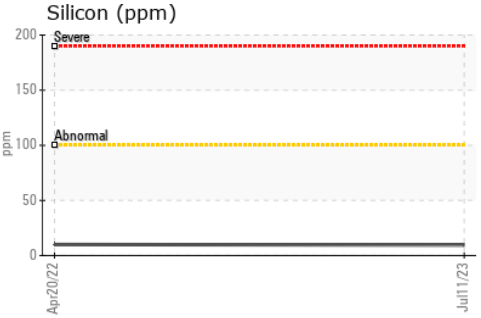
Chromium (ppm)



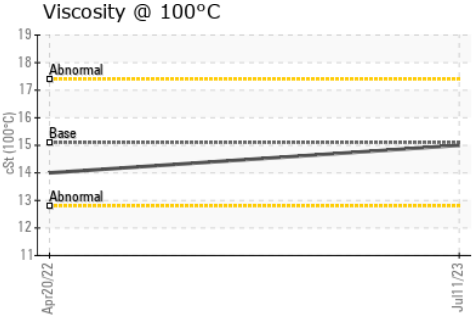
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



PQ

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0074287 **Received** : 12 Jul 2023
Lab Number : 02569316 **Diagnosed** : 13 Jul 2023
Unique Number : 5606362 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol, PQ)

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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