



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Machine Id
FREIGHTLINER 52947
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 10W30 (--- GAL)

RECOMMENDATION

Check for low coolant level. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0631604	WC0892094	WC0863976
Sample Date		Client Info		28 Feb 2024	01 Feb 2024	04 Dec 2023
Machine Age	kms	Client Info		0	115518	159588
Oil Age	kms	Client Info		0	16205	0
Filter Age	kms	Client Info		0	16205	0
Oil Changed		Client Info		N/A	Not Changd	Changed
Filter Changed		Client Info		N/A	Not Changd	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>80	25	17	36
Chromium	ppm	ASTM D5185(m)	>5	1	1	3
Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>30	16	13	▲ 45
Lead	ppm	ASTM D5185(m)	>30	<1	<1	2
Copper	ppm	ASTM D5185(m)	>150	30	24	58
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

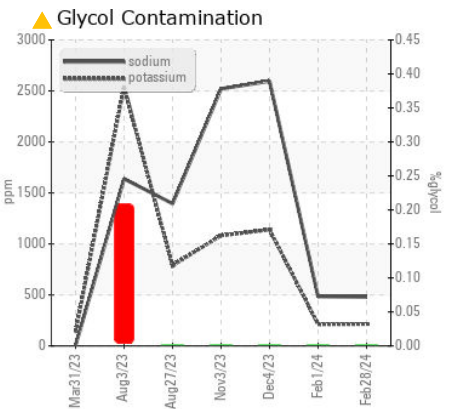
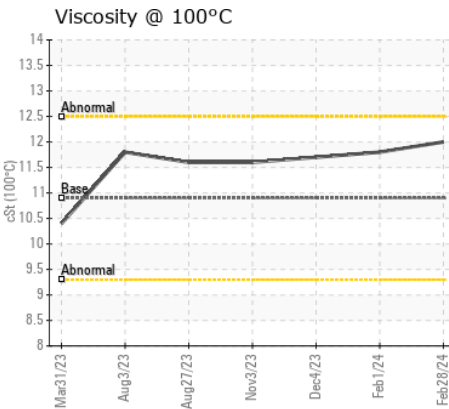
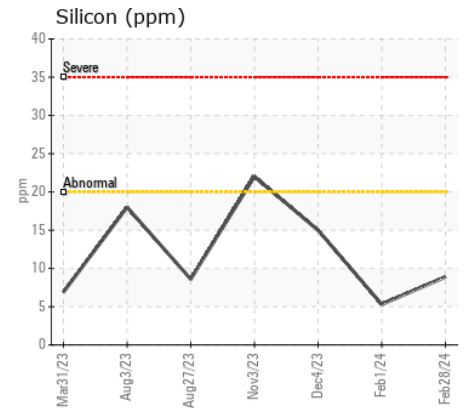
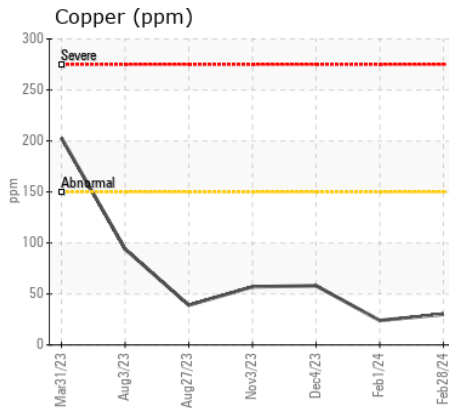
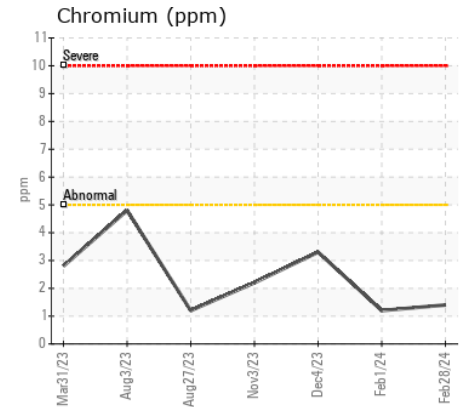
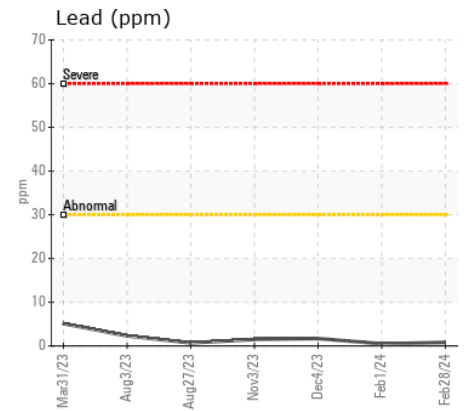
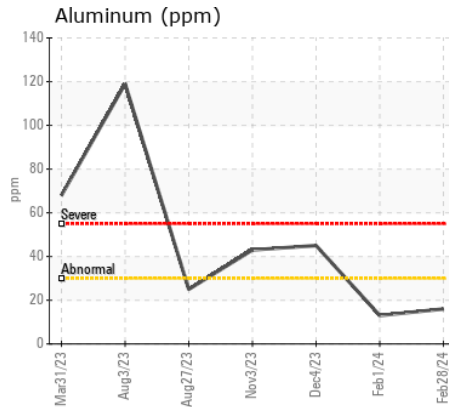
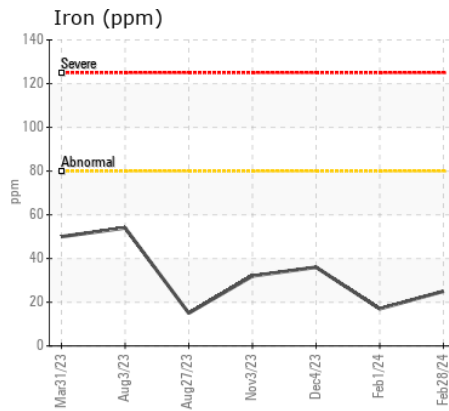
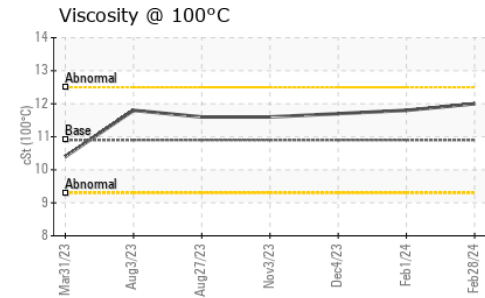
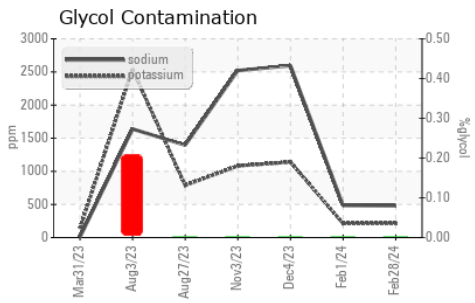
Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative.

Silicon	ppm	ASTM D5185(m)	>20	9	5	15
Potassium	ppm	ASTM D5185(m)	>20	▲ 215	▲ 212	▲ 1140
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		0.0	0.0	0.0
Soot %	%	ASTM D7844*	>3	0.4	0.3	0.7
Nitration	Abs/cm	ASTM D7624*	>20	9.5	9.3	16.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	23.5	22.9	27.7
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service (see recommendation).

Sodium	ppm	ASTM D5185(m)		● 481	● 485	● 2596
Boron	ppm	ASTM D5185(m)	250	83	104	4
Barium	ppm	ASTM D5185(m)	10	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	100	28	28	178
Manganese	ppm	ASTM D5185(m)		0	0	1
Magnesium	ppm	ASTM D5185(m)	450	147	145	856
Calcium	ppm	ASTM D5185(m)	3000	1987	1989	1070
Phosphorus	ppm	ASTM D5185(m)	1150	876	913	700
Zinc	ppm	ASTM D5185(m)	1350	1104	1121	1165
Sulfur	ppm	ASTM D5185(m)	4250	2782	2929	2441
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.9	17.3	17.7
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	12.0	11.8	11.7



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0631604 **Received** : 29 Feb 2024
Lab Number : 02618905 **Tested** : 29 Feb 2024
Unique Number : 5736015 **Diagnosed** : 01 Mar 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol)

MANITOU LIN TRANSPORT
 75 MUMFORD ROAD
 LIVELY, ON
 CA P3Y 1L1
 Contact: Todd Smith
 tosmith@manitoulintransport.com
 T: (705)562-3302
 F: x:

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.