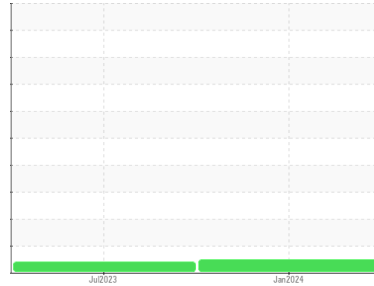




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
FREIGHTLINER 51976
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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		WC0886668	WC0828315	---
Sample Date	Client Info		07 Jan 2024	17 Jul 2023	---
Machine Age	mls	Client Info	110287	36756	---
Oil Age	mls	Client Info	34745	36756	---
Oil Changed	Client Info		Changed	Changed	---
Sample Status			NORMAL	ABNORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	---
Water	WC Method	>0.2	NEG	NEG	---
Glycol	WC Method		NEG	NEG	---

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>80	37	84	---
Chromium	ppm	ASTM D5185(m)	>5	3	5	---
Nickel	ppm	ASTM D5185(m)	>2	<1	1	---
Titanium	ppm	ASTM D5185(m)		0	<1	---
Silver	ppm	ASTM D5185(m)	>3	0	<1	---
Aluminum	ppm	ASTM D5185(m)	>30	20	94	---
Lead	ppm	ASTM D5185(m)	>30	1	4	---
Copper	ppm	ASTM D5185(m)	>150	46	147	---
Tin	ppm	ASTM D5185(m)	>5	<1	5	---
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)	250	3	32	---
Barium	ppm	ASTM D5185(m)	10	0	<1	---
Molybdenum	ppm	ASTM D5185(m)	100	62	44	---
Manganese	ppm	ASTM D5185(m)		<1	5	---
Magnesium	ppm	ASTM D5185(m)	450	988	568	---
Calcium	ppm	ASTM D5185(m)	3000	1141	1712	---
Phosphorus	ppm	ASTM D5185(m)	1150	935	728	---
Zinc	ppm	ASTM D5185(m)	1350	1184	846	---
Sulfur	ppm	ASTM D5185(m)	4250	1835	1544	---
Lithium	ppm	ASTM D5185(m)		<1	<1	---

CONTAMINANTS

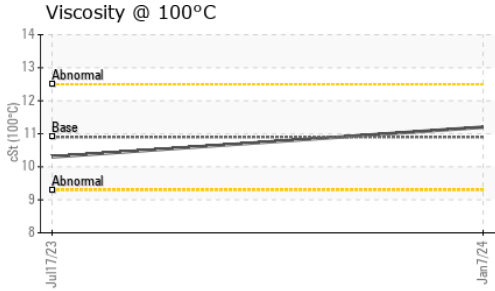
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	5	8	---
Sodium	ppm	ASTM D5185(m)		2	6	---
Potassium	ppm	ASTM D5185(m)	>20	34	207	---

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.6	0.3	---
Nitration	Abs/cm	ASTM D7624*	>20	8.7	9.0	---
Sulfation	Abs./1mm	ASTM D7415*	>30	21.3	21.7	---

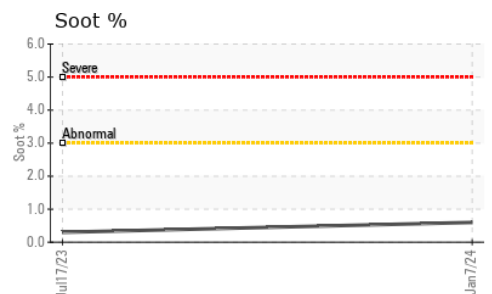
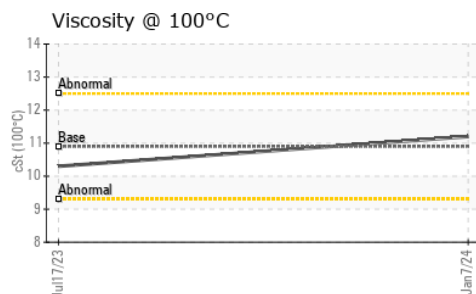
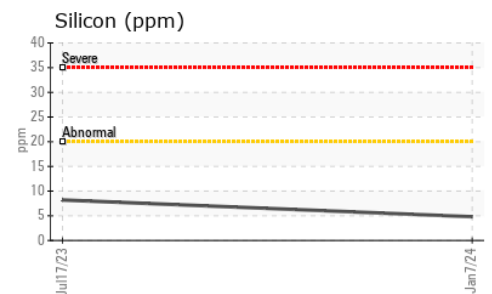
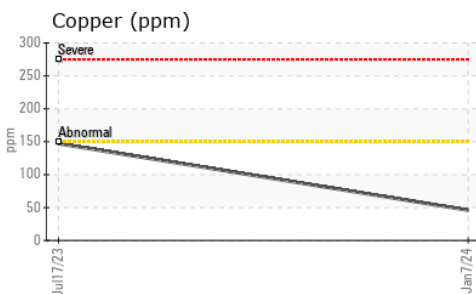
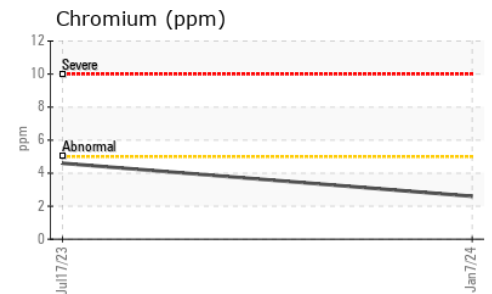
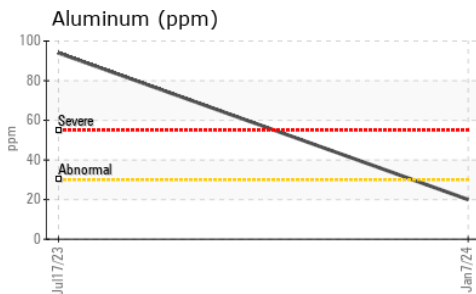
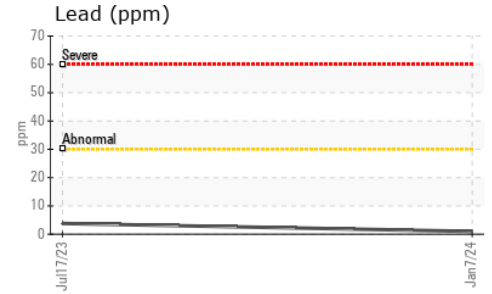
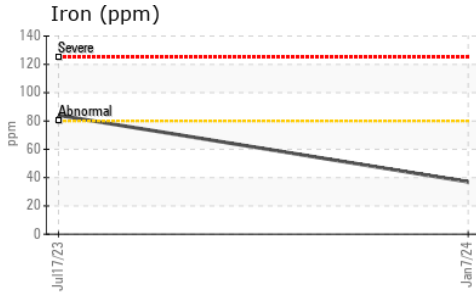


OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	17.8	21.3	---
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	---
Free Water	scalar	Visual*		NEG	NEG	---
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	11.2	▲ 10.3	---

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **MANITOU LIN TRANSPORT (GARAGE)**
Sample No. : WC0886668 **Received** : 09 Jan 2024 **1335 SHAWSON DRIVE**
Lab Number : **02607410** **Diagnosed** : 09 Jan 2024 **MISSISSAUGA, ON**
Unique Number : 5708496 **Diagnostician** : Wes Davis **CA L4W 1C4**
Test Package : MOB 1 **Contact:** Shane Irwin

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.

Address: 1335 SHAWSON DRIVE, MISSISSAUGA, ON CA L4W 1C4
Contact: Shane Irwin
Email: sirwin@manitoulintransport.com
Tel: x: (905)564-6361