



# WEAR CHECK

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area  
**2M34**  
Machine Id  
**FREIGHTLINER M2 106 JTK9828**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>ARI0006820</b>	ARI0006851	---
Sample Date		Client Info		<b>05 Feb 2024</b>	27 Oct 2023	---
Machine Age	mls	Client Info		<b>11824</b>	8753	---
Oil Age	mls	Client Info		<b>3071</b>	0	---
Filter Age	mls	Client Info		<b>3071</b>	0	---
Oil Changed		Client Info		<b>Changed</b>	Changed	---
Filter Changed		Client Info		<b>Changed</b>	Changed	---
Sample Status				<b>NORMAL</b>	NORMAL	---

### WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>80	<b>21</b>	125	---
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	3	---
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	1	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	---
Aluminum	ppm	ASTM D5185m	>30	<b>4</b>	9	---
Lead	ppm	ASTM D5185m	>30	<b>0</b>	<1	---
Copper	ppm	ASTM D5185m	>150	<b>2</b>	24	---
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

### CONTAMINATION

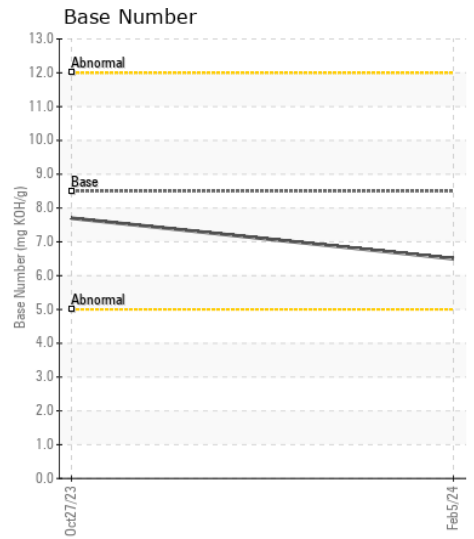
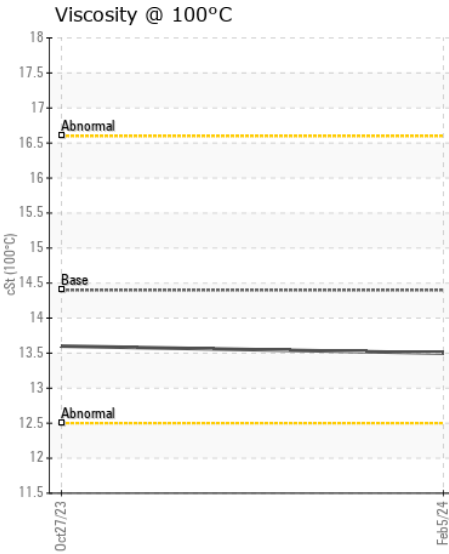
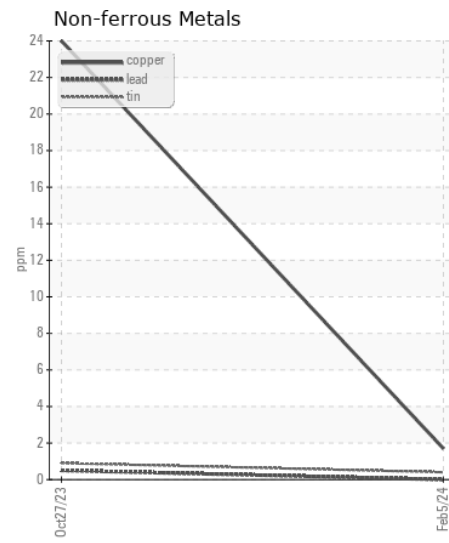
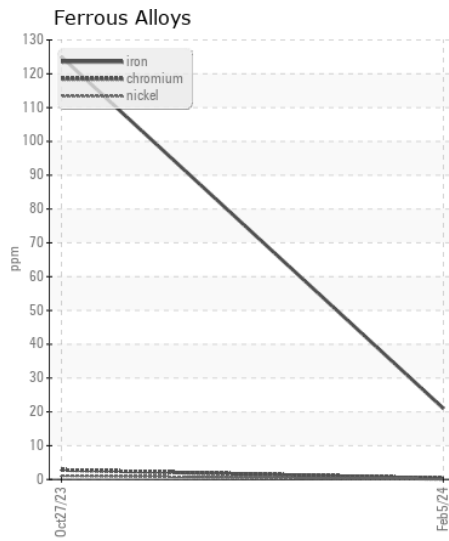
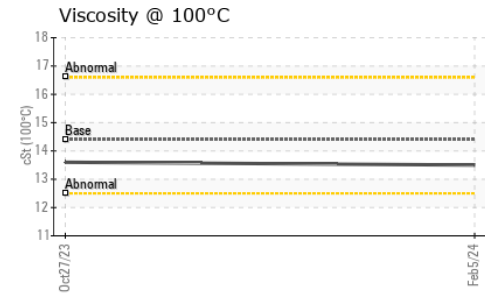
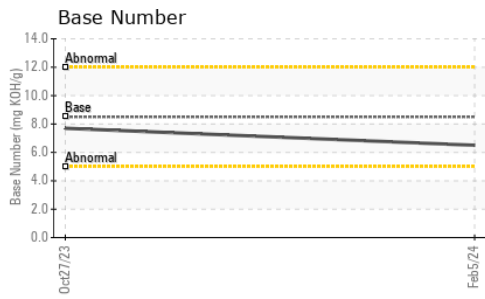
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>7</b>	37	---
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	10	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0.7</b>	1.2	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.5</b>	13.1	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.3</b>	25.6	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	---

### FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	<b>1</b>	6	---
Boron	ppm	ASTM D5185m	250	<b>59</b>	42	---
Barium	ppm	ASTM D5185m	10	<b>0</b>	16	---
Molybdenum	ppm	ASTM D5185m	100	<b>90</b>	58	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	9	---
Magnesium	ppm	ASTM D5185m	450	<b>114</b>	668	---
Calcium	ppm	ASTM D5185m	3000	<b>1978</b>	2109	---
Phosphorus	ppm	ASTM D5185m	1150	<b>951</b>	921	---
Zinc	ppm	ASTM D5185m	1350	<b>1156</b>	1131	---
Sulfur	ppm	ASTM D5185m	4250	<b>3358</b>	3066	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.1</b>	27.1	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.5</b>	7.7	---
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.5</b>	13.6	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ARI0006820 **Received** : 07 Feb 2024  
**Lab Number** : 06083015 **Tested** : 08 Feb 2024  
**Unique Number** : 10870460 **Diagnosed** : 08 Feb 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**INSITUFORM TECHNOLOGIES, INC**  
 709 EAST ORDNANCE ROAD SUITE 501  
 BALTIMORE, MD  
 US 21226  
 Contact: ALBERT FRIEDRICH  
 AFRIEDRICH@INSITUFORM.COM

To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.  
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)