



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**FREIGHTLINER M70445**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DC0034069</b>	DC0028297	DC0023010
Sample Date		Client Info		<b>03 May 2024</b>	07 Aug 2023	21 Dec 2022
Machine Age	mls	Client Info		<b>49445</b>	48571	47360
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>80	<b>11</b>	12	8
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>30	<b>1</b>	3	<1
Lead	ppm	ASTM D5185m	>30	<b>1</b>	<1	1
Copper	ppm	ASTM D5185m	>150	<b>&lt;1</b>	1	<1
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

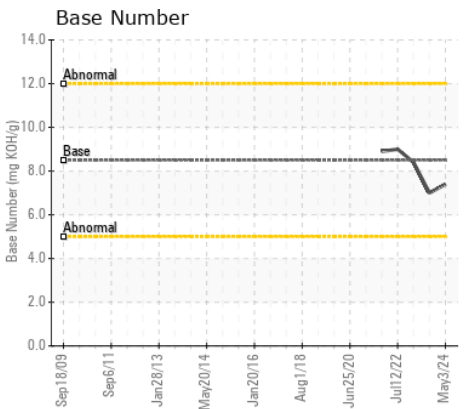
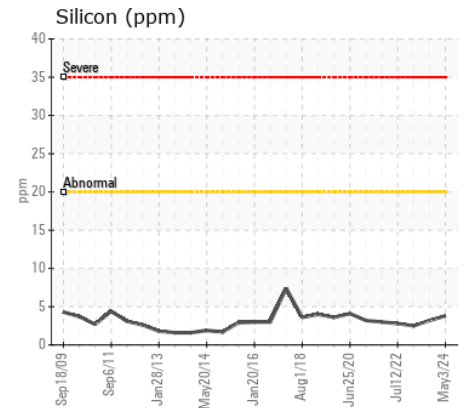
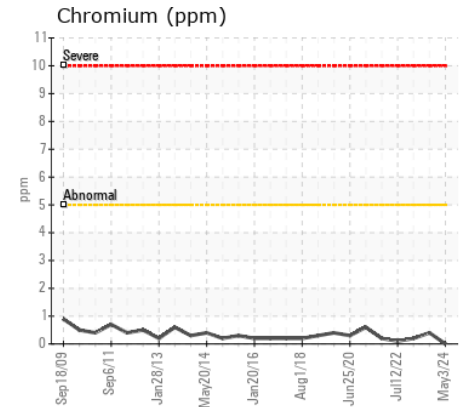
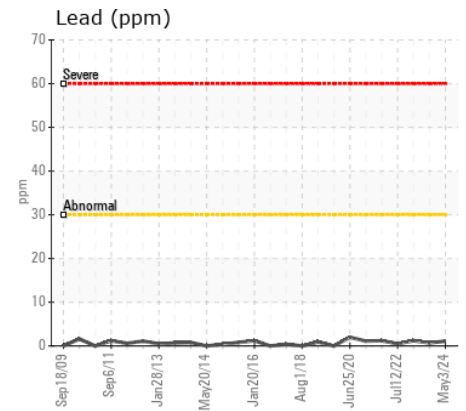
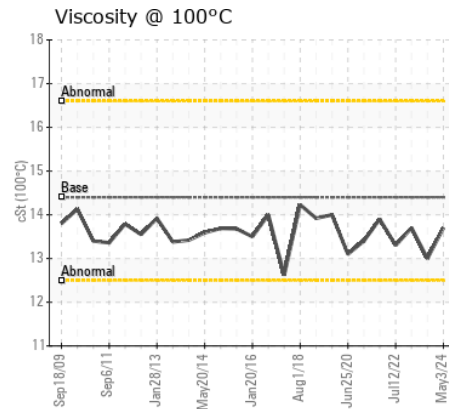
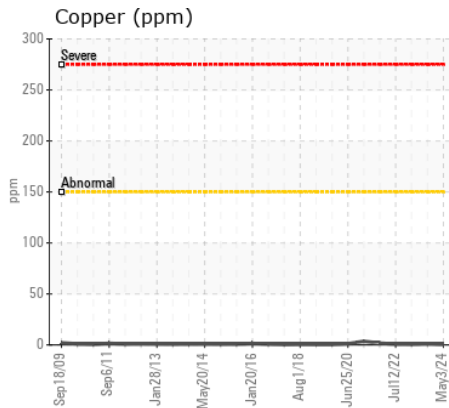
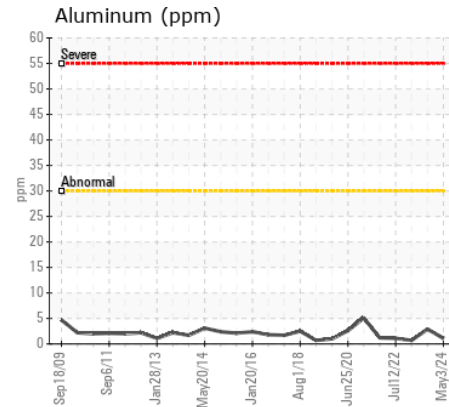
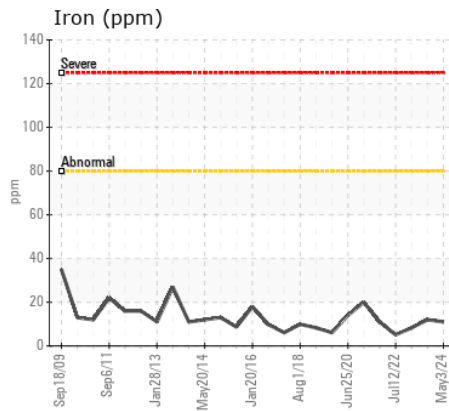
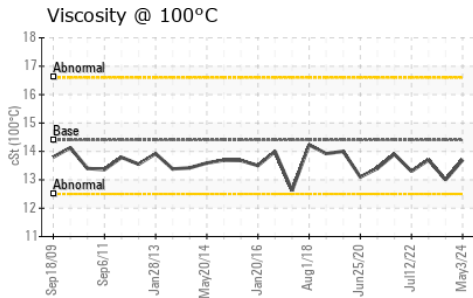
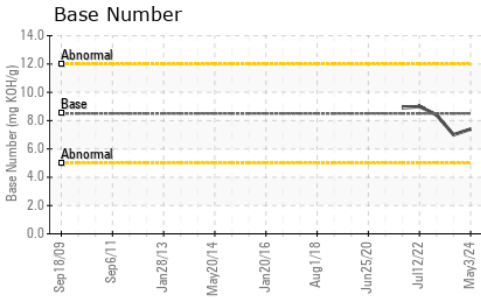
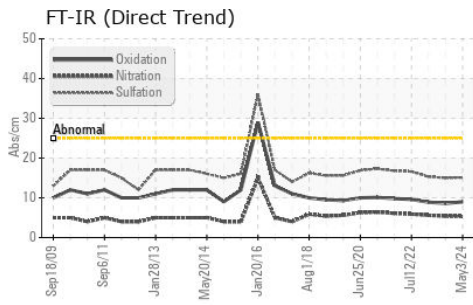
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>4</b>	3	2
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	8	3
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.3</b>	5.4	5.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>15.1</b>	15.0	15.3
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	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	>158	<b>&lt;1</b>	2	1
Boron	ppm	ASTM D5185m	250	<b>3</b>	<1	6
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>4</b>	3	3
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	450	<b>53</b>	31	45
Calcium	ppm	ASTM D5185m	3000	<b>2293</b>	2304	2401
Phosphorus	ppm	ASTM D5185m	1150	<b>983</b>	906	932
Zinc	ppm	ASTM D5185m	1350	<b>1067</b>	1075	1165
Sulfur	ppm	ASTM D5185m	4250	<b>4343</b>	4407	4536
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.0</b>	8.6	8.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.4</b>	7.0	8.4
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.7</b>	13.0	13.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0034069  
**Lab Number** : 06187164  
**Unique Number** : 11043916  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Received** : 21 May 2024  
**Tested** : 23 May 2024  
**Diagnosed** : 23 May 2024 - Wes Davis

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)

**M&M FLEET**  
 5046 BUCHANAN ST.  
 HYATTSVILLE, MD  
 US 20781  
 Contact: June McClosky  
 office@mmfleet.net  
 T: (301)779-4545  
 F: x: