



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 2-229**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 15W40 (52 QTS)**

## 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>WC0834192</b>	WC0847602	WC0794790
Sample Date		Client Info		<b>04 Jan 2024</b>	01 Nov 2023	31 Aug 2023
Machine Age	hrs	Client Info		<b>0</b>	1502	750
Oil Age	hrs	Client Info		<b>0</b>	752	750
Filter Age	hrs	Client Info		<b>0</b>	752	750
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	<b>21</b>	29	14
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	2	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>8</b>	11	8
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>30	<b>2</b>	4	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

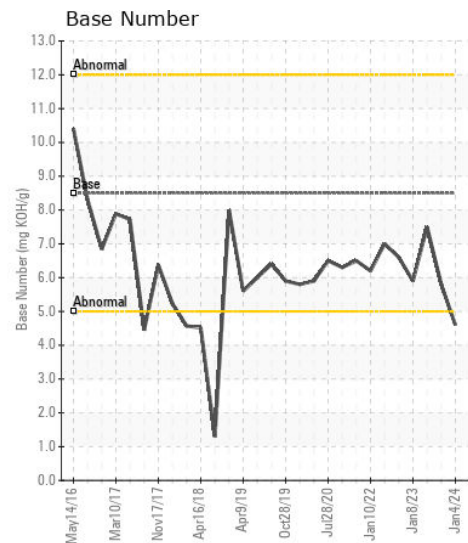
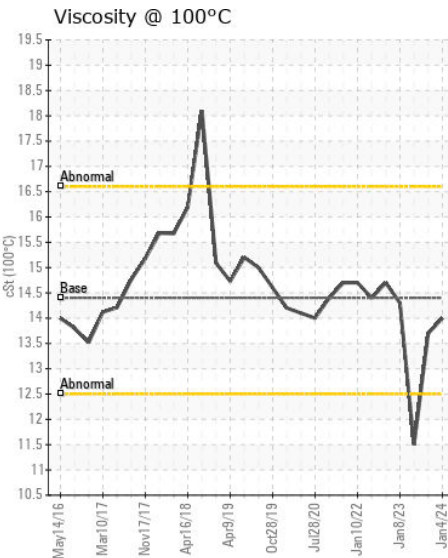
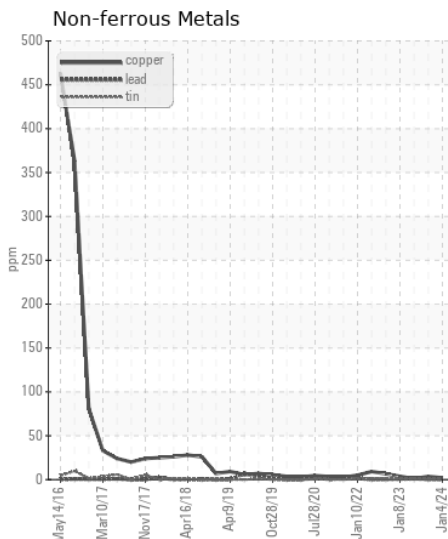
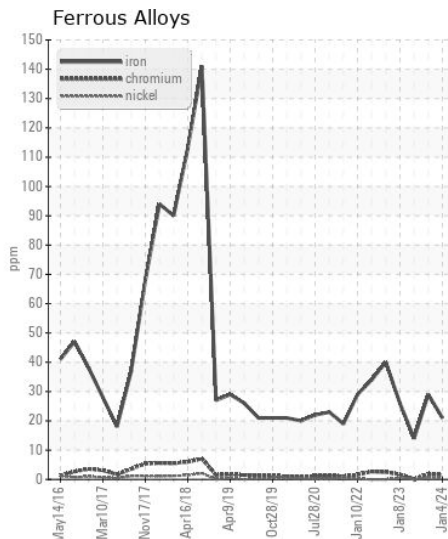
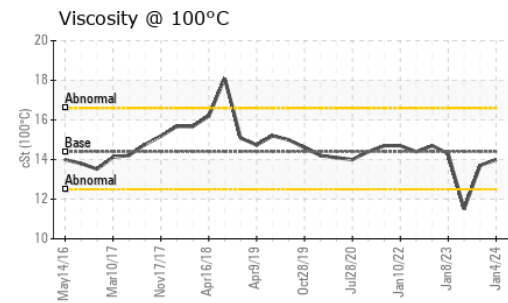
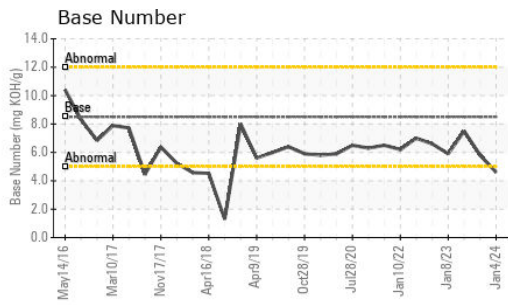
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>30	<b>6</b>	6	24
Potassium	ppm	ASTM D5185m	>20	<b>10</b>	17	5
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	0.1	▲ 3.3
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.7	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.9</b>	10.5	8.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.0</b>	23.8	18.3
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>3</b>	4	5
Boron	ppm	ASTM D5185m	250	<b>32</b>	25	64
Barium	ppm	ASTM D5185m	10	<b>0</b>	4	0
Molybdenum	ppm	ASTM D5185m	100	<b>8</b>	9	15
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>784</b>	709	331
Calcium	ppm	ASTM D5185m	3000	<b>1348</b>	1369	2033
Phosphorus	ppm	ASTM D5185m	1150	<b>798</b>	762	1012
Zinc	ppm	ASTM D5185m	1350	<b>885</b>	819	1286
Sulfur	ppm	ASTM D5185m	4250	<b>2974</b>	3213	4525
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.3</b>	19.9	14.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>4.6</b>	5.8	7.5
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.0</b>	13.7	▲ 11.5



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0834192 **Received** : 17 Jan 2024  
**Lab Number** : 06063363 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10834745 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

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)

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