



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 19966**  
Component  
**Diesel Engine**  
Fluid  
**EXXON 15W40 (44 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0871936</b>	WC0847810	WC0787886
Sample Date		Client Info		<b>30 Dec 2023</b>	05 Sep 2023	01 May 2023
Machine Age	mls	Client Info		<b>401384</b>	0	350119
Oil Age	mls	Client Info		<b>27639</b>	15080	0
Filter Age	mls	Client Info		<b>27639</b>	15080	0
Oil Changed		Client Info		<b>Changed</b>	Changed	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>10</b>	5	3
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>4</b>	3	2
Lead	ppm	ASTM D5185m	>30	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>150	<b>3</b>	3	2
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

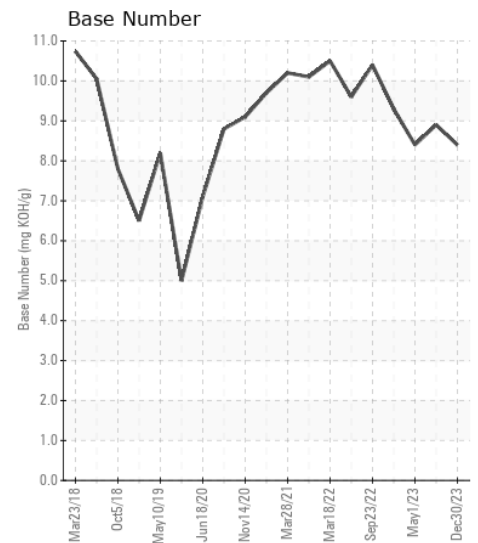
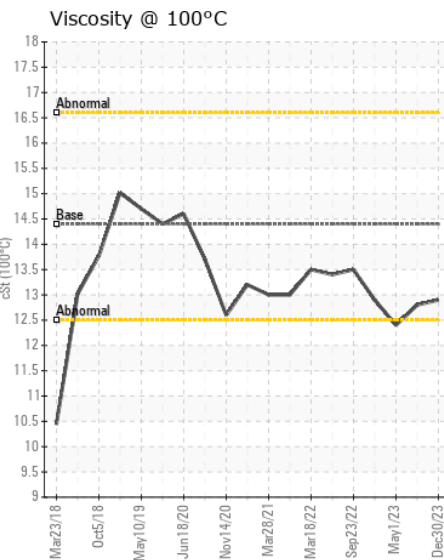
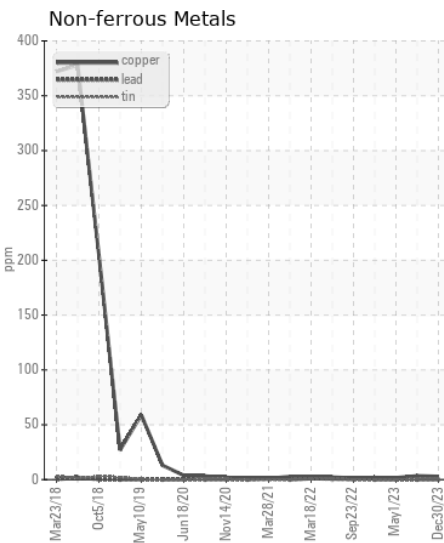
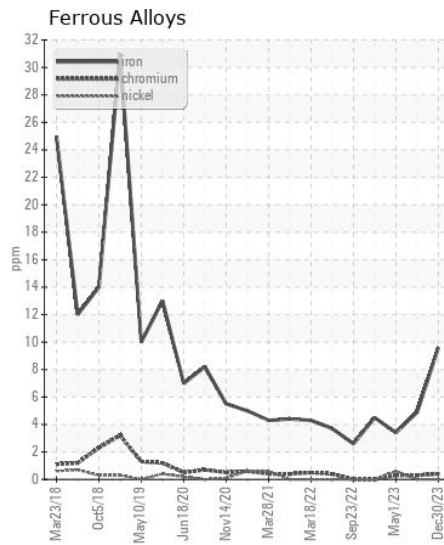
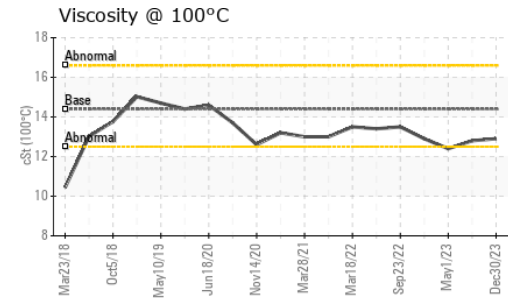
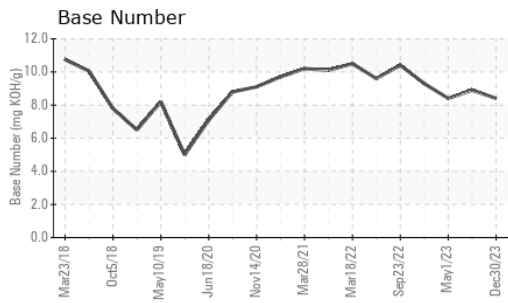
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>5</b>	7	3
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	2
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	0.3
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>	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.0</b>	6.9	5.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.4</b>	18.8	17.1
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		<b>2</b>	0	<1
Boron	ppm	ASTM D5185m		<b>5</b>	7	18
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>66</b>	69	62
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>978</b>	824	870
Calcium	ppm	ASTM D5185m		<b>1128</b>	1116	1203
Phosphorus	ppm	ASTM D5185m		<b>1064</b>	956	979
Zinc	ppm	ASTM D5185m		<b>1298</b>	1175	1204
Sulfur	ppm	ASTM D5185m		<b>3177</b>	3446	3699
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.8</b>	14.1	13.5
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.4</b>	8.9	8.4
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.9</b>	12.8	12.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0871936 **Received** : 18 Jan 2024  
**Lab Number** : 06064870 **Diagnosed** : 19 Jan 2024  
**Unique Number** : 10836252 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

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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)