



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**FREIGHTLINER 632**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (16 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0870851</b>	WC0697055	WC0697135
Sample Date		Client Info		<b>03 Nov 2023</b>	02 Aug 2022	10 May 2022
Machine Age	mls	Client Info		<b>259199</b>	249041	246297
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>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>32</b>	27	8
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	2	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	5	3
Lead	ppm	ASTM D5185m	>40	<b>0</b>	2	<1
Copper	ppm	ASTM D5185m	>330	<b>23</b>	1	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	1	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

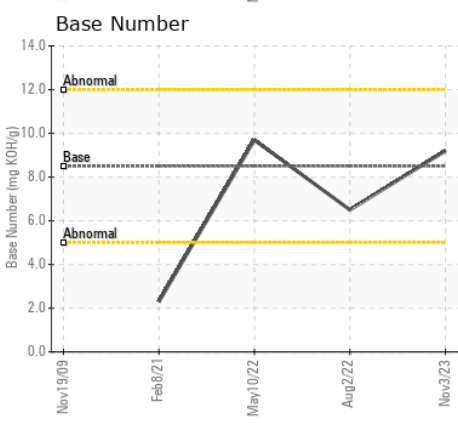
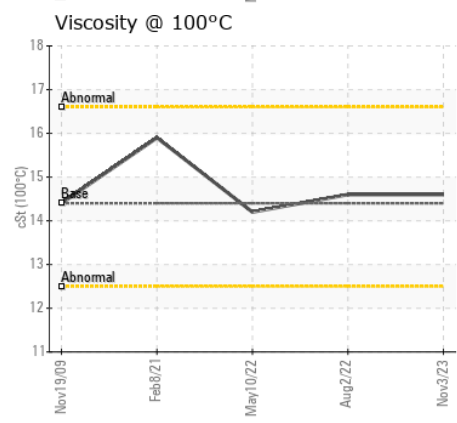
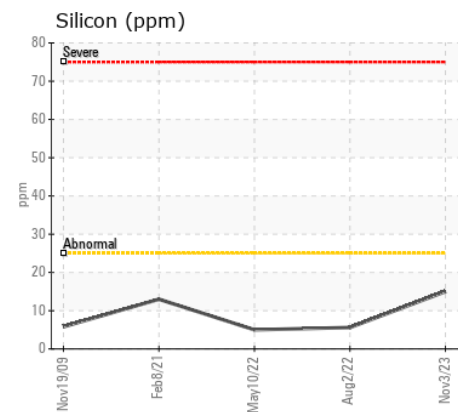
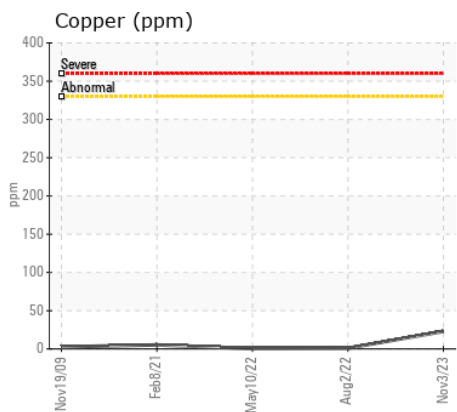
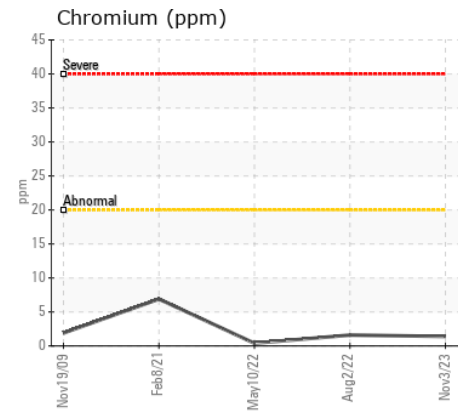
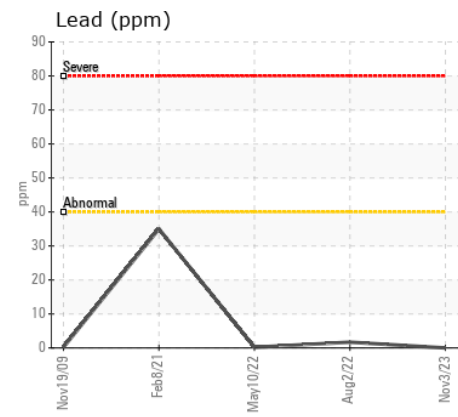
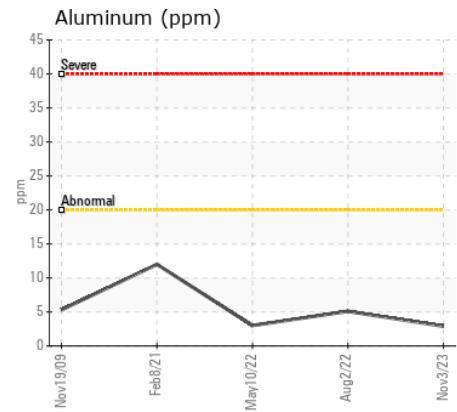
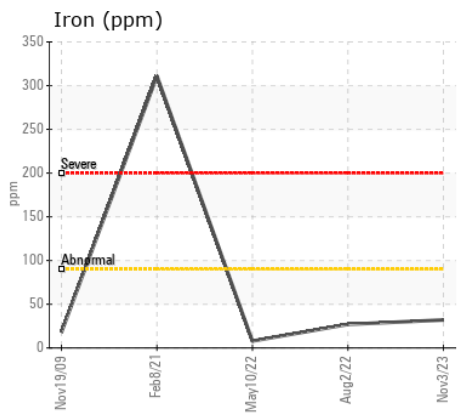
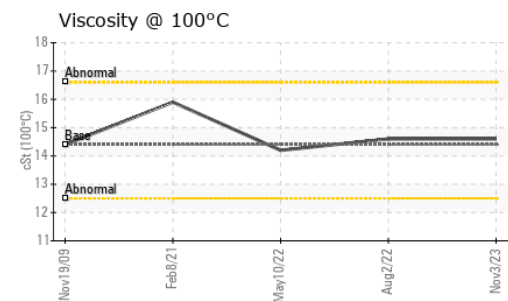
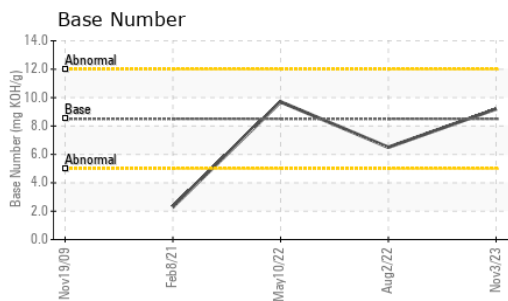
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>15</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	4	0
Fuel		WC Method	>3.0	<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	>6	<b>0.6</b>	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.7</b>	8.0	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.6</b>	26.5	21.4
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>7</b>	12	1
Boron	ppm	ASTM D5185m	250	<b>10</b>	29	34
Barium	ppm	ASTM D5185m	10	<b>4</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>61</b>	76	51
Manganese	ppm	ASTM D5185m		<b>3</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>789</b>	94	108
Calcium	ppm	ASTM D5185m	3000	<b>1280</b>	1731	2130
Phosphorus	ppm	ASTM D5185m	1150	<b>998</b>	851	973
Zinc	ppm	ASTM D5185m	1350	<b>1194</b>	1054	1125
Sulfur	ppm	ASTM D5185m	4250	<b>3027</b>	2904	3118
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.8</b>	24.8	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>9.2</b>	6.5	9.7
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.6</b>	14.6	14.2



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0870851 **Received** : 16 Jan 2024  
**Lab Number** : 06061738 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10833120 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**WAKE COUNTY PUBLIC SCHOOL SYSTEM**  
 1551 ROCK QUARRY ROAD  
 RALEIGH, NC  
 US 27610  
 Contact: DEVIN WEBER  
 dweber@wcpss.net  
 T: (919)856-8076  
 F: x:

Certificate L2367  
 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)