



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 38704**  
Component  
**Diesel Engine**  
Fluid  
**SHELL ROTELLA T 15W40 (20 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0925963</b>	WC0620680	WC0443699
Sample Date		Client Info		<b>06 May 2024</b>	28 Dec 2021	08 May 2020
Machine Age	mls	Client Info		<b>202761</b>	0	105195
Oil Age	mls	Client Info		<b>0</b>	0	6762
Filter Age	mls	Client Info		<b>0</b>	0	6762
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>130	<b>4</b>	28	12
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	5	4
Lead	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>125	<b>&lt;1</b>	1	<1
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
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.

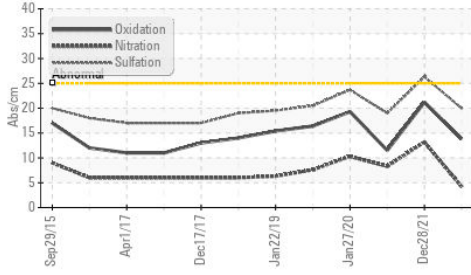
Silicon	ppm	ASTM D5185m	>25	<b>6</b>	7	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	4	9
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0</b>	1.3	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>4.2</b>	13.2	8.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.0</b>	26.3	19
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

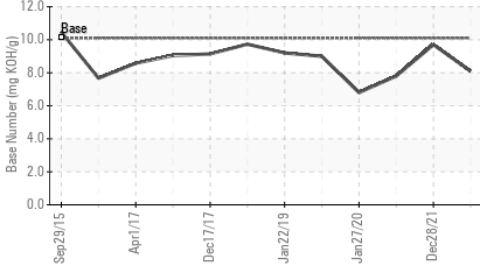
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	3	2
Boron	ppm	ASTM D5185m	316	<b>487</b>	2	16
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	1.2	<b>81</b>	67	9
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	24	<b>393</b>	1049	47
Calcium	ppm	ASTM D5185m	2292	<b>1262</b>	1137	2352
Phosphorus	ppm	ASTM D5185m	1064	<b>969</b>	1071	858
Zinc	ppm	ASTM D5185m	1160	<b>1162</b>	1352	945
Sulfur	ppm	ASTM D5185m	4996	<b>3484</b>	2970	4515
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.8</b>	21.2	11.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>8.1</b>	9.7	7.8
Visc @ 100°C	cSt	ASTM D445	15.7	<b>14.3</b>	13.8	13.75

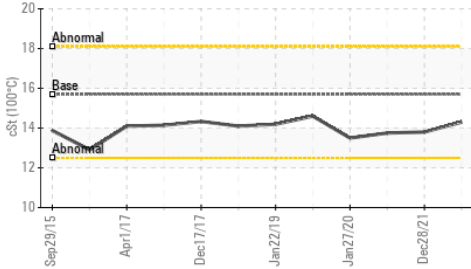
**FT-IR (Direct Trend)**



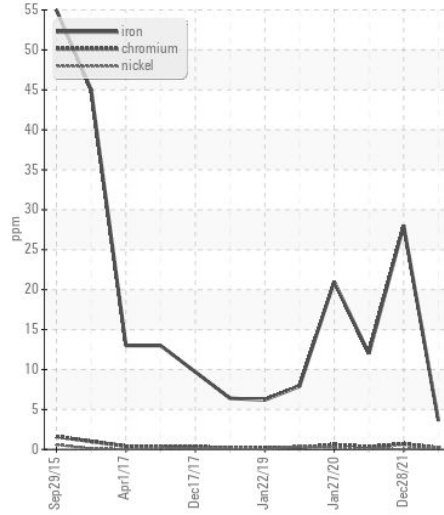
**Base Number**



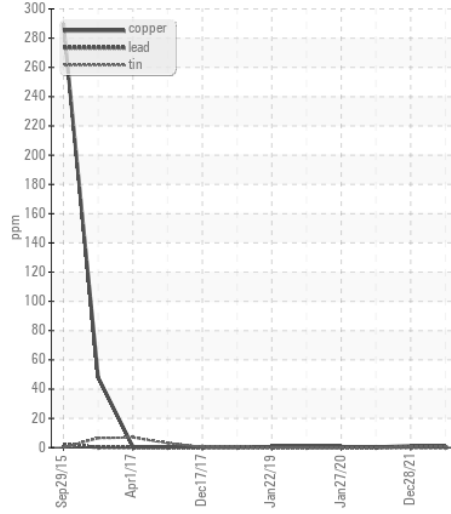
**Viscosity @ 100°C**



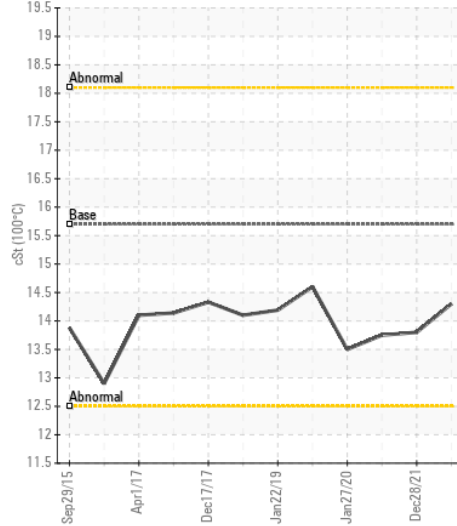
**Ferrous Alloys**



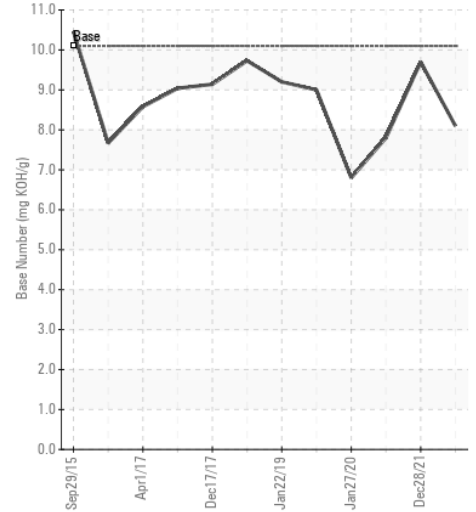
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0925963  
**Lab Number** : 06178163  
**Unique Number** : 11029489  
**Test Package** : FLEET

**SALEM NATIONALEASE CORPORATION**  
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 WINSTON SALEM, NC  
 US 27105  
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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)