



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 19945**  
Component  
**Diesel Engine**  
Fluid  
**EXXON 15W40 (48 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0946096</b>	WC0906455	WC0871939
Sample Date		Client Info		<b>23 Jun 2024</b>	01 Mar 2024	27 Dec 2023
Machine Age	mls	Client Info		<b>515545</b>	501090	493200
Oil Age	mls	Client Info		<b>26000</b>	7884	16332
Filter Age	mls	Client Info		<b>26000</b>	7884	16332
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

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>165	<b>11</b>	8	10
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	2	2
Lead	ppm	ASTM D5185m	>150	<b>6</b>	8	3
Copper	ppm	ASTM D5185m	>90	<b>&lt;1</b>	1	<1
Tin	ppm	ASTM D5185m	>5	<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.

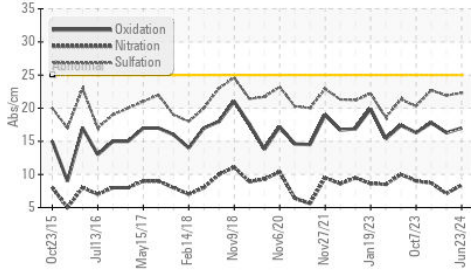
Silicon	ppm	ASTM D5185m	>35	<b>6</b>	4	6
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	<1	4
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>7.5	<b>0.4</b>	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.4</b>	7.1	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.3</b>	21.9	22.7
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

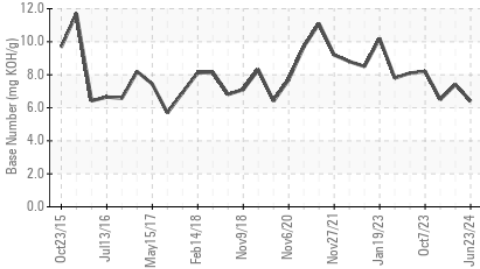
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	<1	2
Boron	ppm	ASTM D5185m		<b>238</b>	359	228
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>94</b>	81	84
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>393</b>	401	537
Calcium	ppm	ASTM D5185m		<b>1499</b>	1308	1346
Phosphorus	ppm	ASTM D5185m		<b>1111</b>	1040	1099
Zinc	ppm	ASTM D5185m		<b>1340</b>	1195	1333
Sulfur	ppm	ASTM D5185m		<b>3902</b>	3241	3313
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.0</b>	16.3	17.8
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.4</b>	7.4	6.5
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.3</b>	13.5	13.2

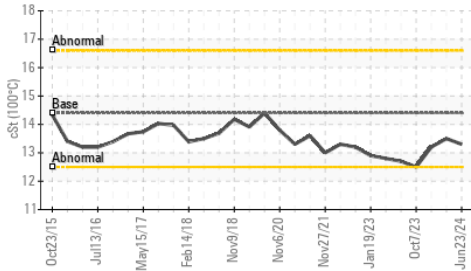
**FT-IR (Direct Trend)**



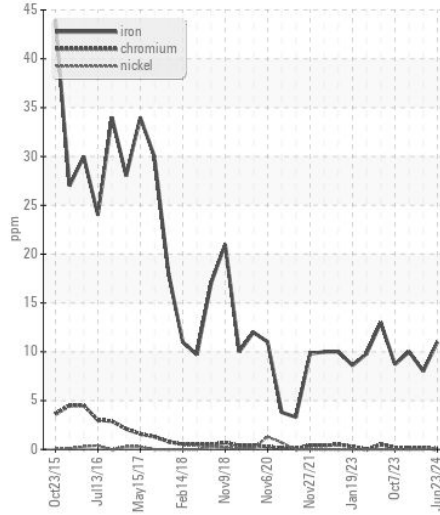
**Base Number**



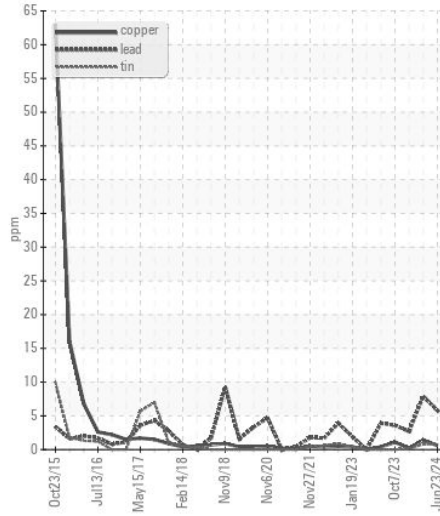
**Viscosity @ 100°C**



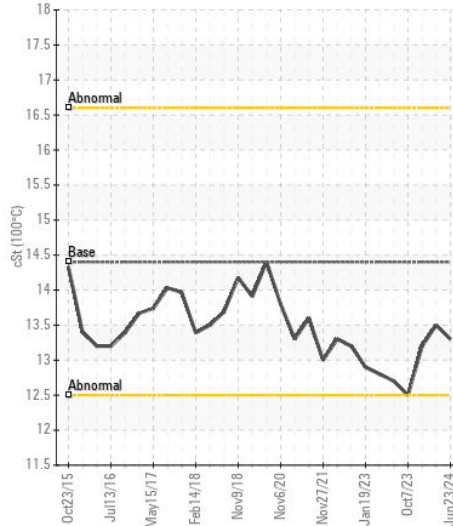
**Ferrous Alloys**



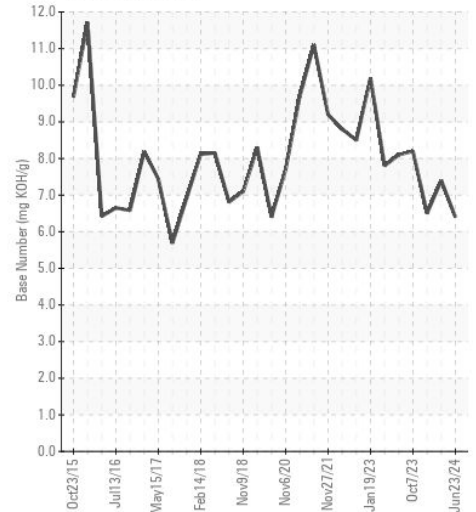
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0946096  
**Lab Number** : 06217518  
**Unique Number** : 11090382  
**Test Package** : FLEET

**Received** : 21 Jun 2024  
**Tested** : 25 Jun 2024  
**Diagnosed** : 25 Jun 2024 - Sean Felton

**SALEM NATIONALEASE CORPORATION**  
 198 PARK PLAZA DRIVE  
 WINSTON SALEM, NC  
 US 27105

Contact: Audrey Hopkins  
 Audrey.Hopkins@salemcorp.com

T: (336)767-9642

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)

F: x: