



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 36160**  
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>WC0945997</b>	WC0919276	WC0887065
Sample Date		Client Info		<b>14 Jun 2024</b>	11 Apr 2024	31 Jan 2024
Machine Age	mls	Client Info		<b>0</b>	0	0
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>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>8</b>	7	17
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>4</b>	2	10
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>150	<b>2</b>	0	4
Tin	ppm	ASTM D5185m	>5	<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.

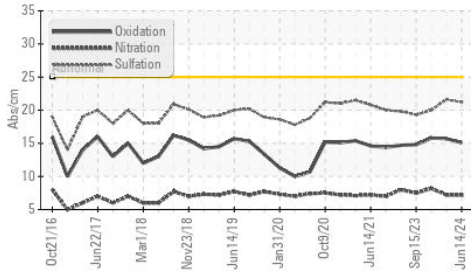
Silicon	ppm	ASTM D5185m	>20	<b>6</b>	6	8
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	2
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.2</b>	7.2	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.2</b>	21.6	20.0
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

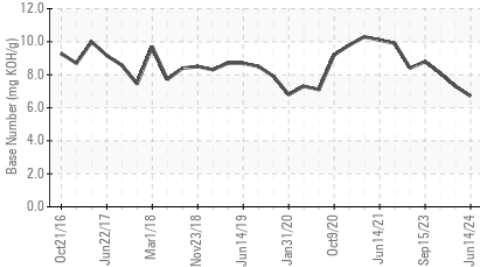
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>0</b>	<1	1
Boron	ppm	ASTM D5185m		<b>271</b>	257	30
Barium	ppm	ASTM D5185m		<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>86</b>	87	68
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>405</b>	596	940
Calcium	ppm	ASTM D5185m		<b>1363</b>	1473	1107
Phosphorus	ppm	ASTM D5185m		<b>1096</b>	1132	1022
Zinc	ppm	ASTM D5185m		<b>1233</b>	1407	1258
Sulfur	ppm	ASTM D5185m		<b>3263</b>	3992	3027
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.1</b>	15.7	15.8
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.7</b>	7.3	8.1
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.4</b>	13.6	13.2

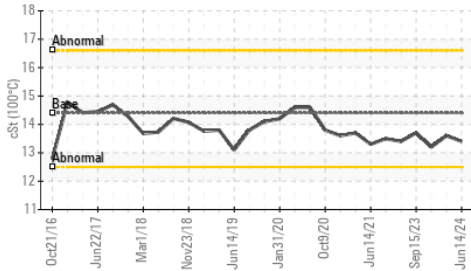
**FT-IR (Direct Trend)**



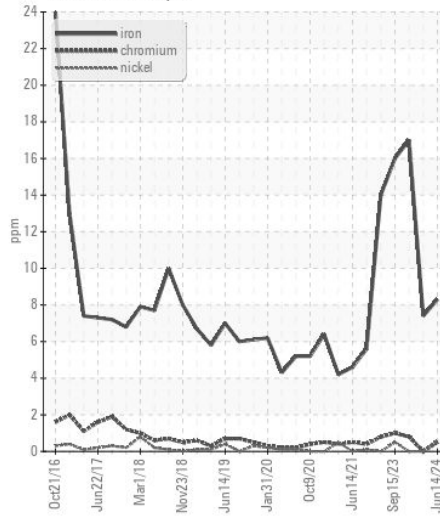
**Base Number**



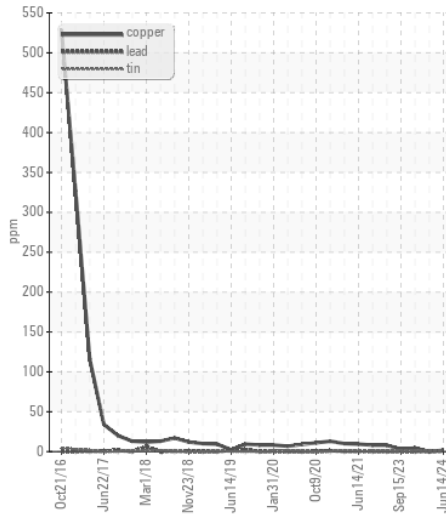
**Viscosity @ 100°C**



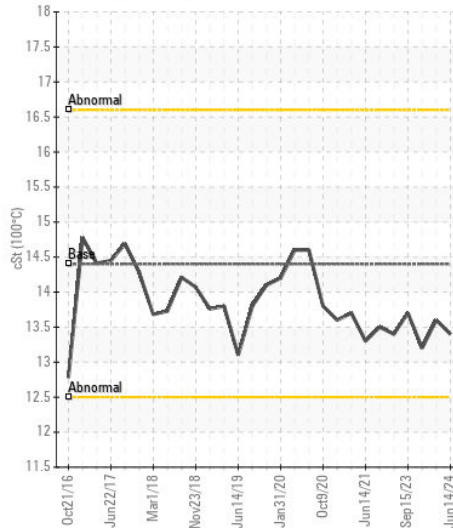
**Ferrous Alloys**



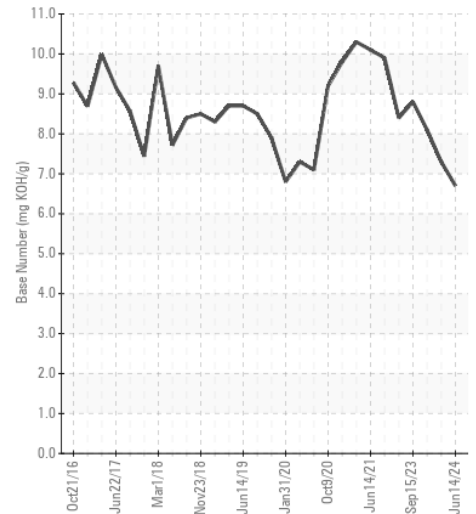
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0945997  
**Lab Number** : 06219232  
**Unique Number** : 11097429  
**Test Package** : FLEET

**Received** : 24 Jun 2024  
**Tested** : 25 Jun 2024  
**Diagnosed** : 26 Jun 2024 - Jonathan Hester

**SALEM NATIONALEASE CORPORATION**  
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 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)