



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 54384**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (46 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0936306</b>	WC0869187	WC0806007
Sample Date		Client Info		<b>01 May 2024</b>	06 Nov 2023	27 May 2023
Machine Age	mls	Client Info		<b>489234</b>	456773	416618
Oil Age	mls	Client Info		<b>25000</b>	0	0
Filter Age	mls	Client Info		<b>25000</b>	0	0
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	>200	<b>39</b>	12	17
Chromium	ppm	ASTM D5185m	>6	<b>3</b>	1	<1
Nickel	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>50	<b>25</b>	10	6
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>50	<b>5</b>	2	3
Tin	ppm	ASTM D5185m	>6	<b>2</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.

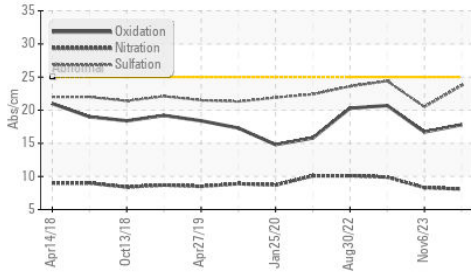
Silicon	ppm	ASTM D5185m	>50	<b>7</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	3	3
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.8</b>	0.5	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.1</b>	8.3	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.7</b>	20.5	24.4
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

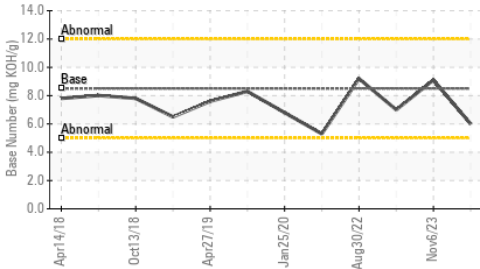
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<b>2</b>	<1	3
Boron	ppm	ASTM D5185m	250	<b>82</b>	5	0
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>96</b>	60	68
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>519</b>	945	1059
Calcium	ppm	ASTM D5185m	3000	<b>1429</b>	1101	1188
Phosphorus	ppm	ASTM D5185m	1150	<b>958</b>	1039	1040
Zinc	ppm	ASTM D5185m	1350	<b>1330</b>	1304	1324
Sulfur	ppm	ASTM D5185m	4250	<b>3053</b>	3039	3210
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.8</b>	16.7	20.7
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.0</b>	9.1	7.0
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.8</b>	13.9	14.0

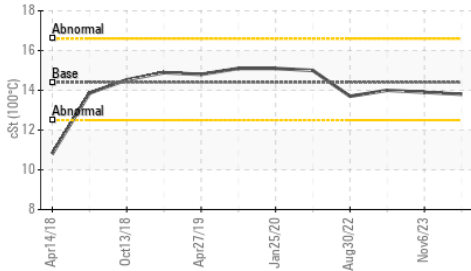
**FT-IR (Direct Trend)**



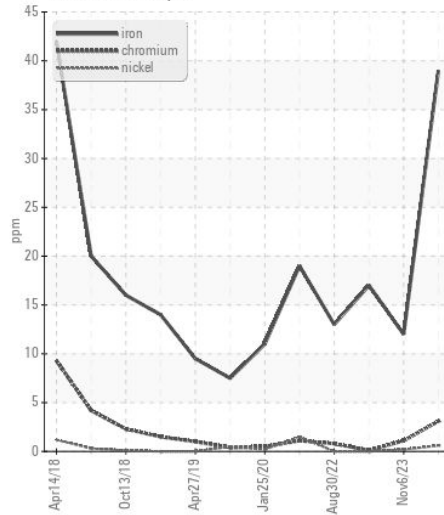
**Base Number**



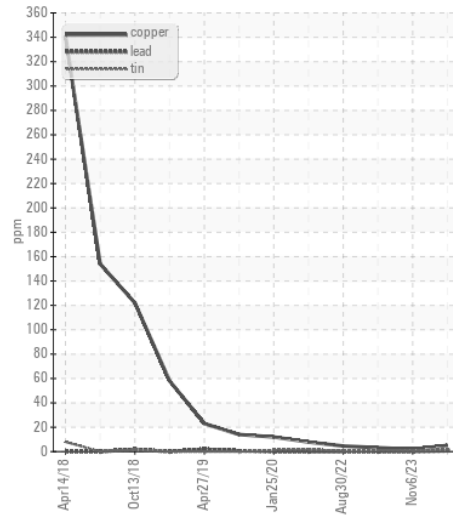
**Viscosity @ 100°C**



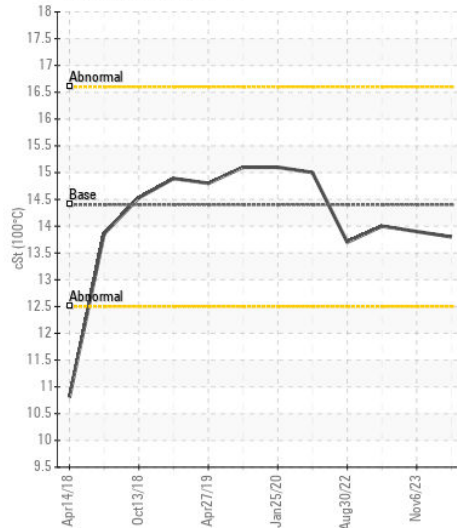
**Ferrous Alloys**



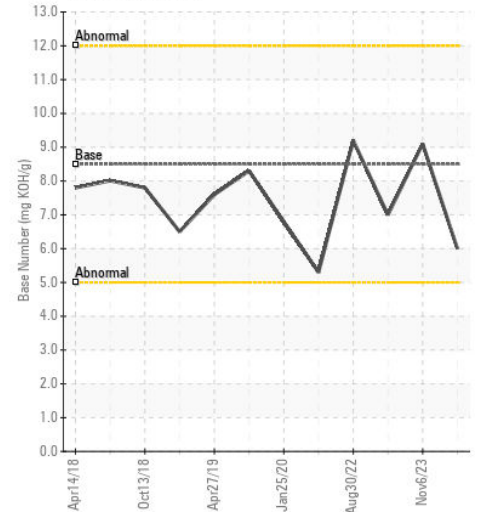
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0936306  
**Lab Number** : 06190032  
**Unique Number** : 11046784  
**Test Package** : FLEET

**Received** : 23 May 2024  
**Tested** : 25 May 2024  
**Diagnosed** : 25 May 2024 - Wes Davis

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

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F: x:

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)