



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 51301**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (42 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>WC0928958</b>	WC0842116	WC0742473
Sample Date		Client Info		<b>27 Apr 2024</b>	02 Nov 2023	28 Apr 2023
Machine Age	mls	Client Info		<b>578876</b>	530831	474962
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>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>60</b>	42	35
Chromium	ppm	ASTM D5185m	>6	<b>2</b>	2	2
Nickel	ppm	ASTM D5185m	>3	<b>1</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>50	<b>18</b>	11	13
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>50	<b>13</b>	11	9
Tin	ppm	ASTM D5185m	>6	<b>1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</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.

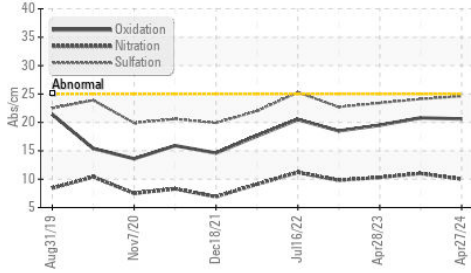
Silicon	ppm	ASTM D5185m	>50	<b>10</b>	9	6
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	3	3
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.9</b>	1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.0</b>	11.0	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.6</b>	24.1	23.4
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

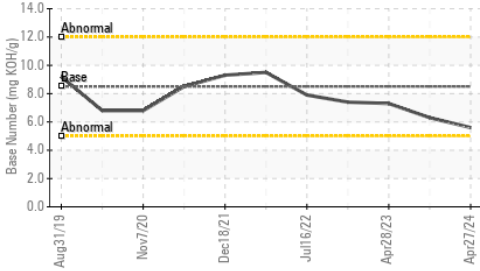
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<b>2</b>	0	0
Boron	ppm	ASTM D5185m	250	<b>57</b>	0	0
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>80</b>	66	70
Manganese	ppm	ASTM D5185m		<b>1</b>	0	<1
Magnesium	ppm	ASTM D5185m	450	<b>715</b>	1029	997
Calcium	ppm	ASTM D5185m	3000	<b>1305</b>	1117	1182
Phosphorus	ppm	ASTM D5185m	1150	<b>1019</b>	1002	1067
Zinc	ppm	ASTM D5185m	1350	<b>1350</b>	1307	1346
Sulfur	ppm	ASTM D5185m	4250	<b>3170</b>	2895	3164
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.6</b>	20.8	19.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>5.6</b>	6.3	7.3
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.9</b>	14.7	14.2

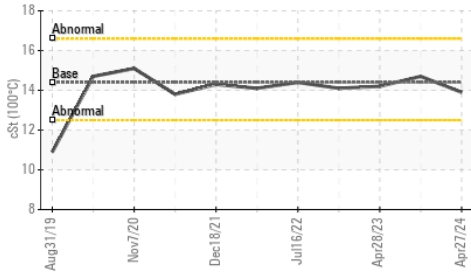
**FT-IR (Direct Trend)**



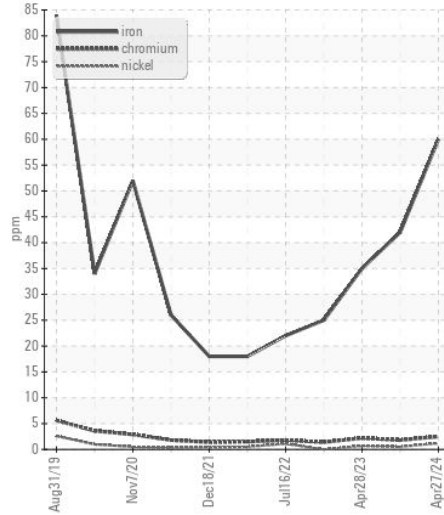
**Base Number**



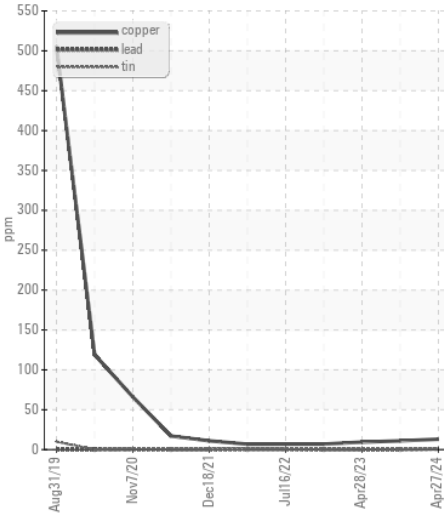
**Viscosity @ 100°C**



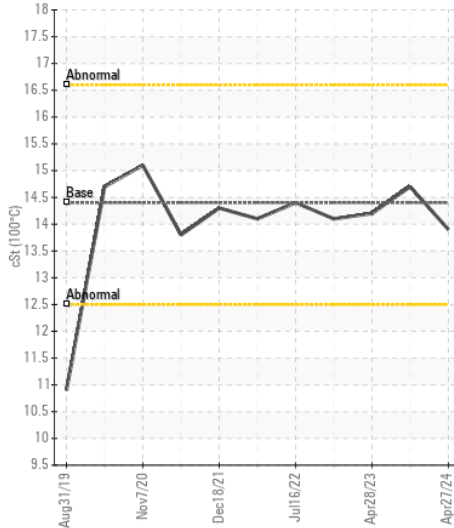
**Ferrous Alloys**



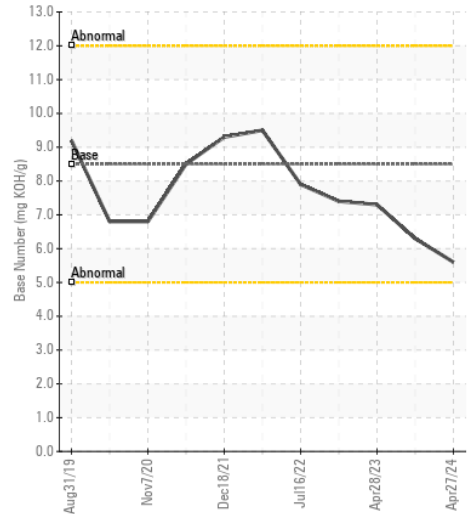
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0928958  
**Lab Number** : 06190097  
**Unique Number** : 11046849  
**Test Package** : FLEET

**Received** : 23 May 2024  
**Tested** : 28 May 2024  
**Diagnosed** : 28 May 2024 - Wes Davis

**SALEM NATIONALEASE CORPORATION**  
 198 PARK PLAZA DRIVE  
 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)