



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 32290**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 5W40 (40 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>WC0915979</b>	WC0838104	WC0478169
Sample Date		Client Info		<b>01 May 2024</b>	19 Oct 2023	10 Jul 2020
Machine Age	mls	Client Info		<b>279884</b>	0	93067
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	N/A
Filter Changed		Client Info		<b>Changed</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>65	<b>15</b>	7	15
Chromium	ppm	ASTM D5185m	>5	<b>1</b>	<1	1
Nickel	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>35	<b>13</b>	5	10
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>180	<b>5</b>	3	27
Tin	ppm	ASTM D5185m	>8	<b>&lt;1</b>	0	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.

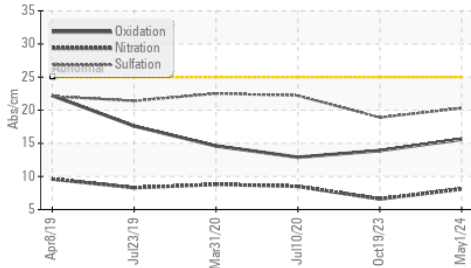
Silicon	ppm	ASTM D5185m	>15	<b>6</b>	3	4
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	2	14
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.3	0.8
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.1</b>	6.6	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.3</b>	18.9	22.2
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

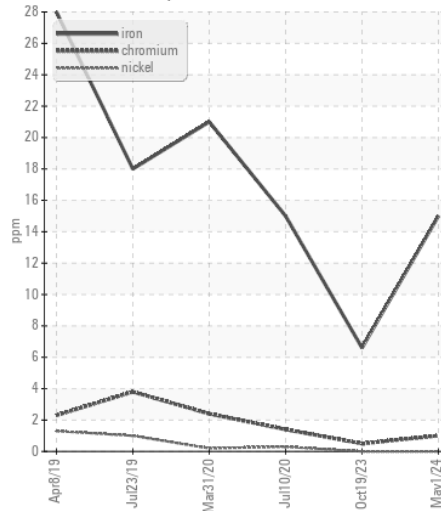
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>44	<b>1</b>	<1	3
Boron	ppm	ASTM D5185m	250	<b>6</b>	8	6
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m	100	<b>66</b>	64	6
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>960</b>	974	49
Calcium	ppm	ASTM D5185m	3000	<b>1107</b>	1115	2337
Phosphorus	ppm	ASTM D5185m	1150	<b>1086</b>	1058	816
Zinc	ppm	ASTM D5185m	1350	<b>1263</b>	1311	959
Sulfur	ppm	ASTM D5185m	4250	<b>3196</b>	3206	4042
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.6</b>	13.9	12.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>8.6</b>	7.4	6.4
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.4</b>	13.1	14.7

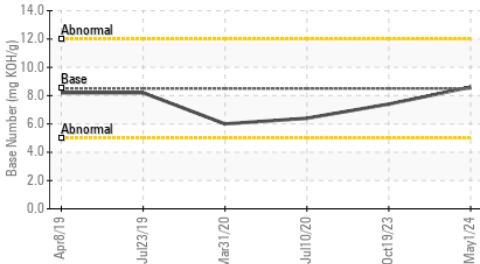
**FT-IR (Direct Trend)**



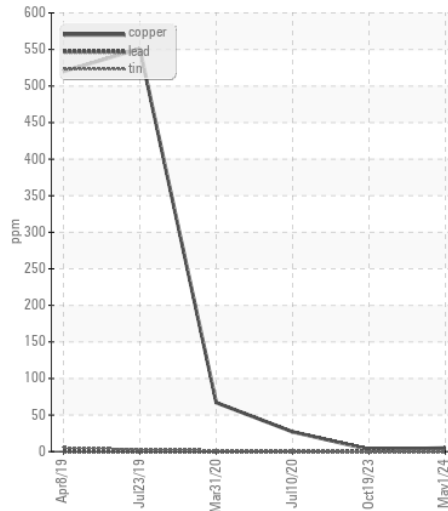
**Ferrous Alloys**



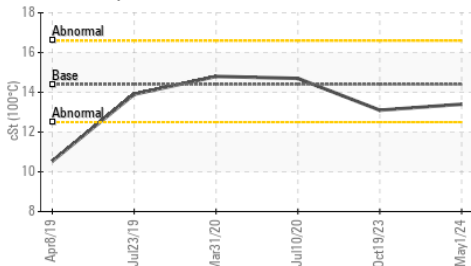
**Base Number**



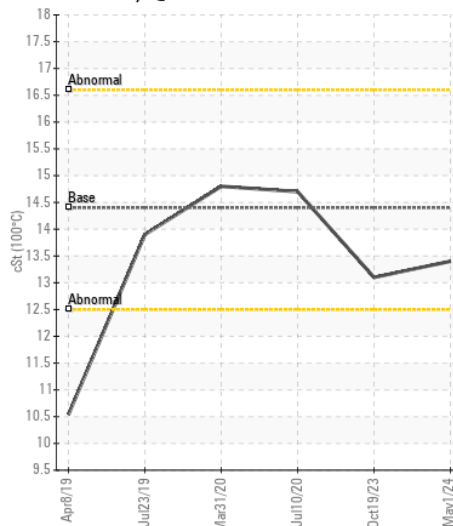
**Non-ferrous Metals**



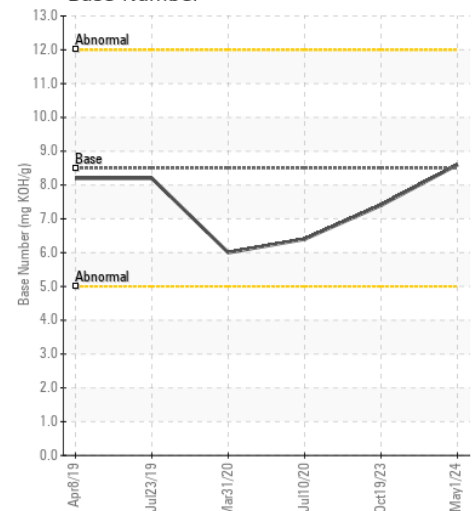
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0915979  
**Lab Number** : 06174871  
**Unique Number** : 11020924  
**Test Package** : FLEET

**Received** : 09 May 2024  
**Tested** : 10 May 2024  
**Diagnosed** : 10 May 2024 - Wes Davis

**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: