



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 182**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (17 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0932736</b>	WC0821230	WC0772969
Sample Date		Client Info		<b>15 May 2024</b>	09 Jun 2023	17 Jan 2023
Machine Age	mls	Client Info		<b>279304</b>	259169	249217
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>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	ABNORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>50</b>	33	55
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<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	>20	<b>7</b>	6	9
Lead	ppm	ASTM D5185m	>40	<b>2</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>11</b>	1	3
Tin	ppm	ASTM D5185m	>15	<b>1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

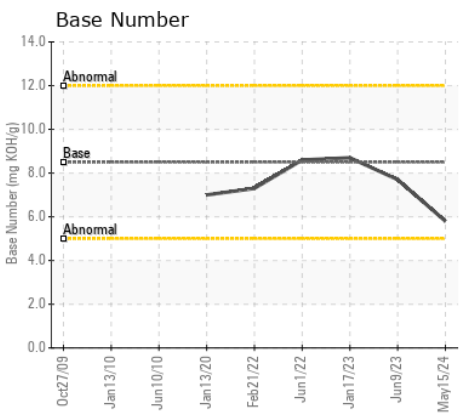
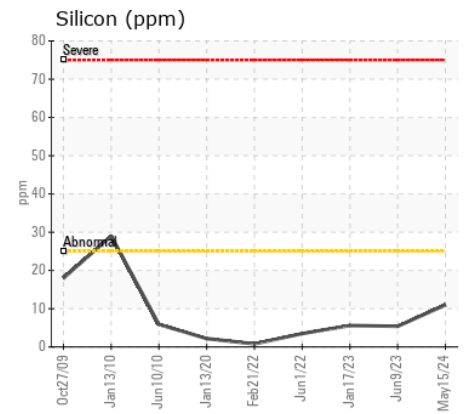
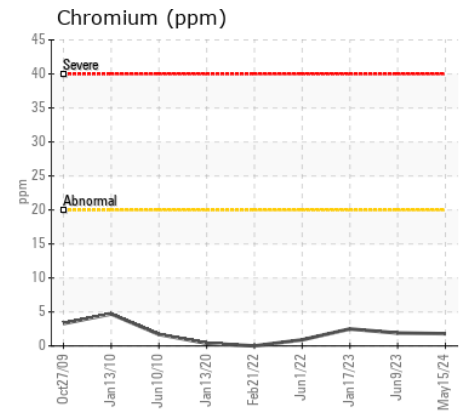
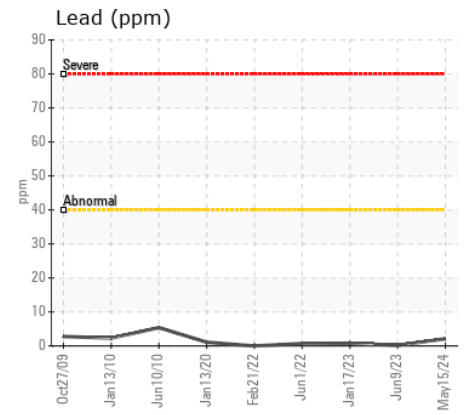
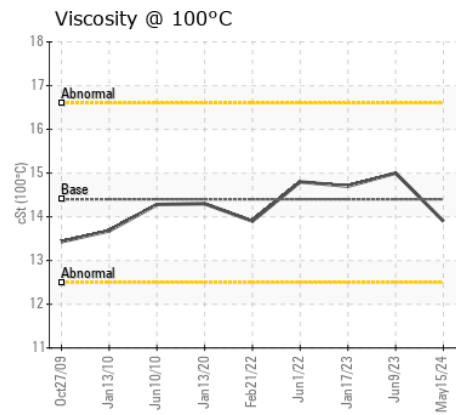
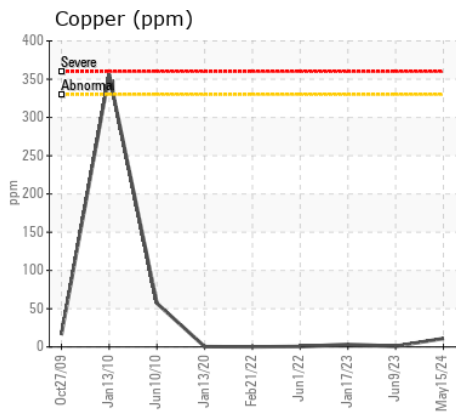
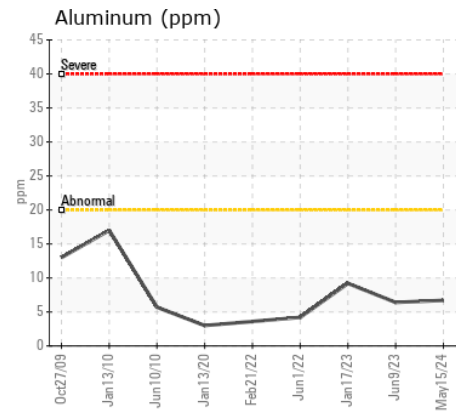
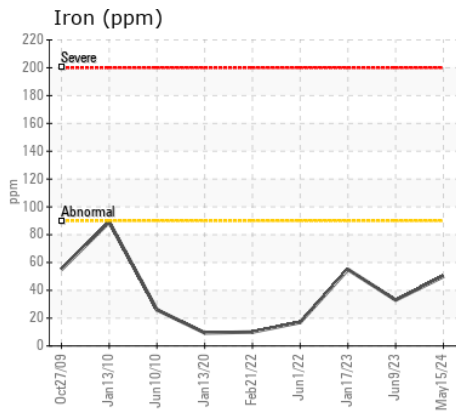
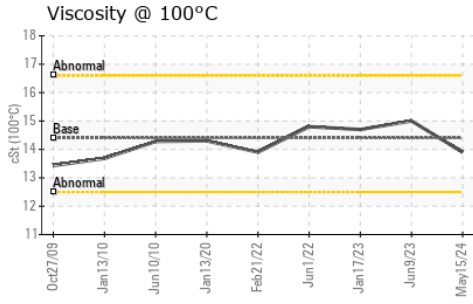
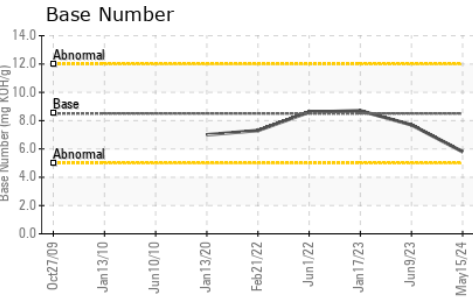
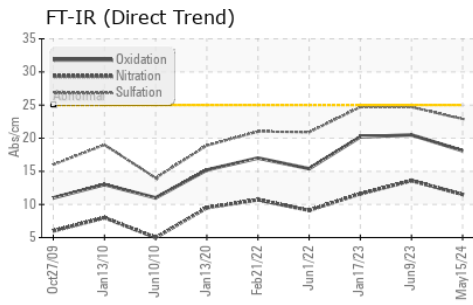
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>11</b>	5	6
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	▲ 138	▲ 46
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	>6	<b>0.9</b>	0.9	1
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.5</b>	13.6	11.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.9</b>	24.7	24.7
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	>158	<b>4</b>	▲ 142	56
Boron	ppm	ASTM D5185m	250	<b>17</b>	25	27
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	1
Molybdenum	ppm	ASTM D5185m	100	<b>98</b>	103	60
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>118</b>	206	331
Calcium	ppm	ASTM D5185m	3000	<b>2340</b>	2621	2135
Phosphorus	ppm	ASTM D5185m	1150	<b>1107</b>	1211	995
Zinc	ppm	ASTM D5185m	1350	<b>1298</b>	1523	1266
Sulfur	ppm	ASTM D5185m	4250	<b>3999</b>	4822	3924
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.1</b>	20.5	20.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>5.8</b>	7.7	8.7
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.9</b>	15.0	14.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0932736  
**Lab Number** : 06189036  
**Unique Number** : 11045788  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Received** : 23 May 2024  
**Tested** : 24 May 2024  
**Diagnosed** : 24 May 2024 - Wes Davis

**WAKE COUNTY PUBLIC SCHOOL SYSTEM**  
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 RALEIGH, NC  
 US 27610  
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 dweber@wcpss.net  
 T: (919)856-8076  
 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)