



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**FREIGHTLINER 641**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (16 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0932702</b>	WC0870796	WC0729865
Sample Date		Client Info		<b>12 Jun 2024</b>	14 Feb 2024	06 Sep 2022
Machine Age	mls	Client Info		<b>218975</b>	214150	203823
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>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	<b>7</b>	19	79
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	1	5
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	5	7
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	1	4
Copper	ppm	ASTM D5185m	>330	<b>0</b>	<1	5
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

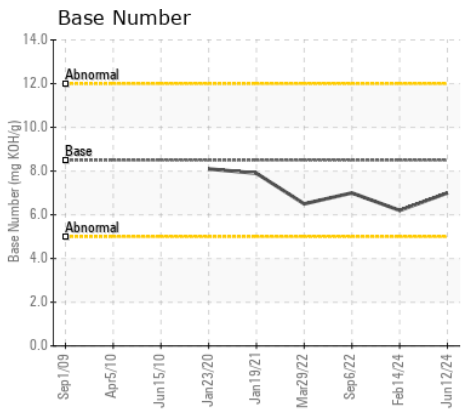
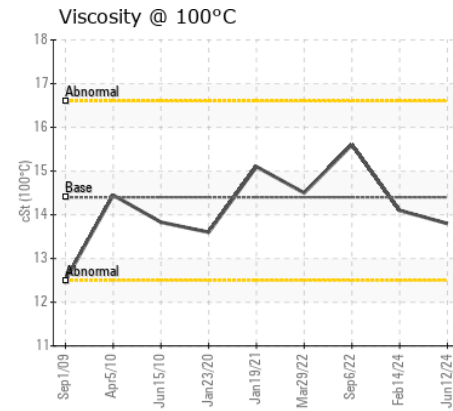
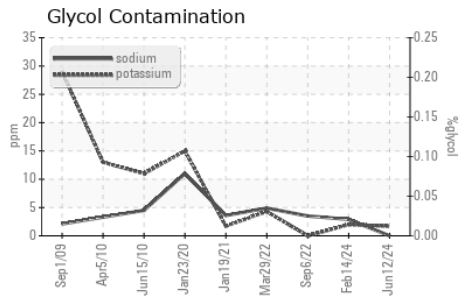
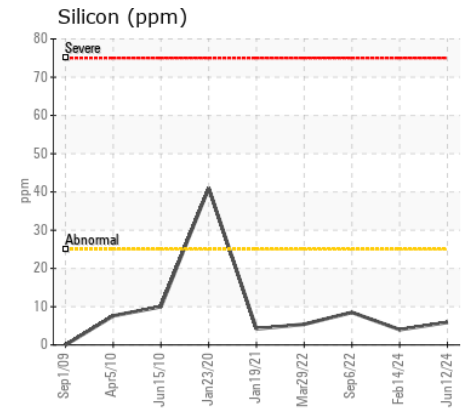
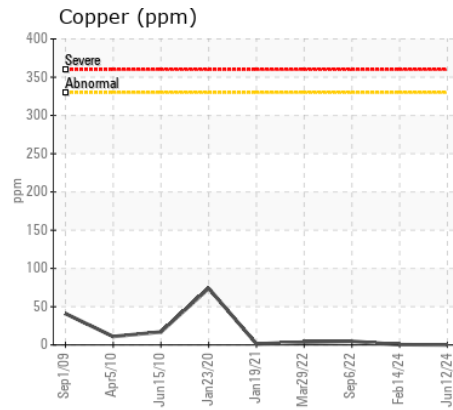
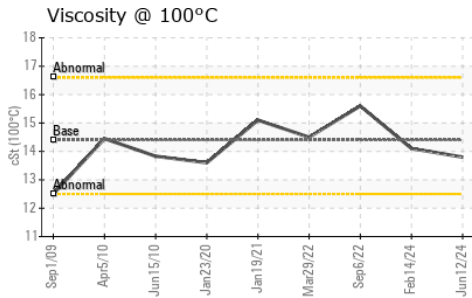
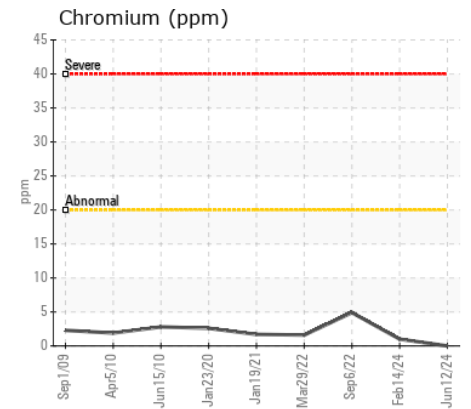
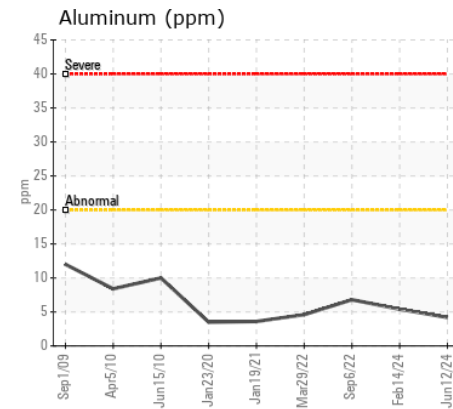
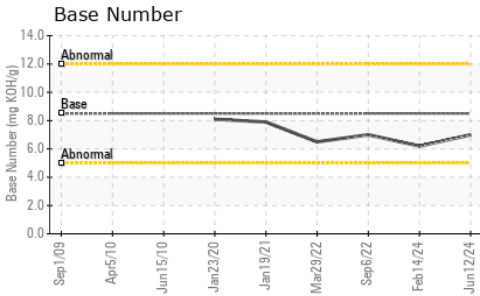
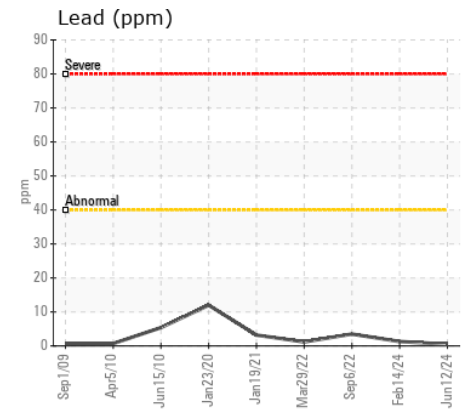
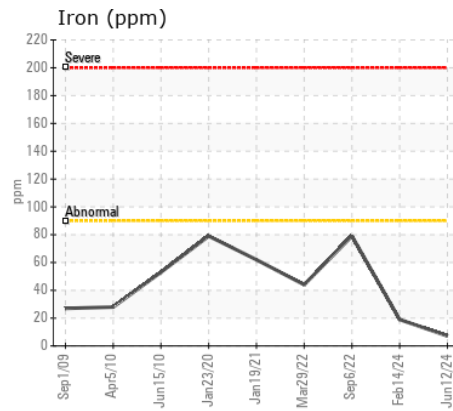
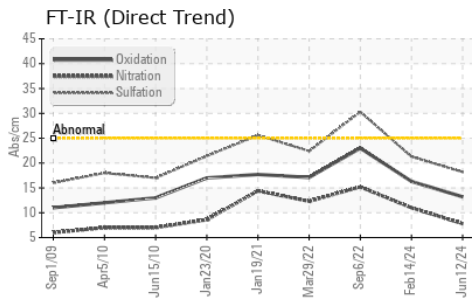
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>6</b>	4	8
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	0
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	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0.4</b>	1	2.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.8</b>	11.0	15.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.2</b>	21.3	30.3
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>0</b>	3	4
Boron	ppm	ASTM D5185m	250	<b>113</b>	30	27
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>88</b>	88	88
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>96</b>	109	32
Calcium	ppm	ASTM D5185m	3000	<b>2054</b>	2136	2170
Phosphorus	ppm	ASTM D5185m	1150	<b>1070</b>	1061	948
Zinc	ppm	ASTM D5185m	1350	<b>1270</b>	1259	1191
Sulfur	ppm	ASTM D5185m	4250	<b>4406</b>	3627	3301
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.2</b>	16.3	23.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.0</b>	6.2	7.0
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.8</b>	14.1	15.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0932702  
**Lab Number** : 06220932  
**Unique Number** : 11099129  
**Test Package** : MOB 1 ( Additional Tests: Glycol, TBN )

**WAKE COUNTY PUBLIC SCHOOL SYSTEM**  
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 US 27610  
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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)