



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 38728**  
Component  
**Diesel Engine**  
Fluid  
**SHELL 15W40 (18 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0925975</b>	WC0919278	WC0887077
Sample Date		Client Info		<b>19 May 2024</b>	09 Apr 2024	17 Jan 2024
Machine Age	mls	Client Info		<b>169228</b>	0	0
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>	N/A	N/A
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	ATTENTION	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>130	<b>24</b>	12	4
Chromium	ppm	ASTM D5185m	>10	<b>3</b>	0	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>5</b>	6	3
Lead	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>125	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

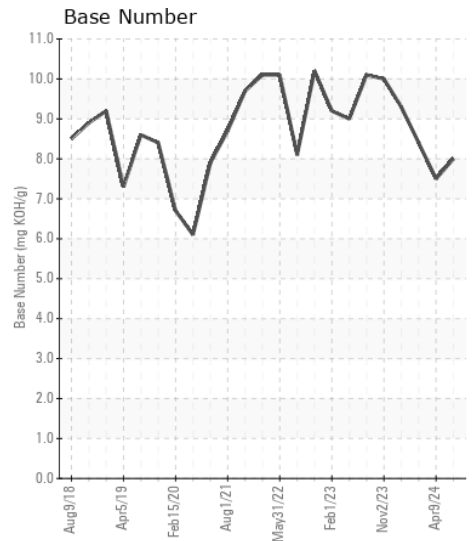
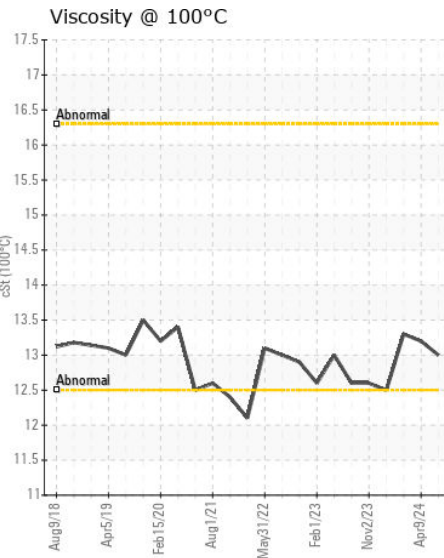
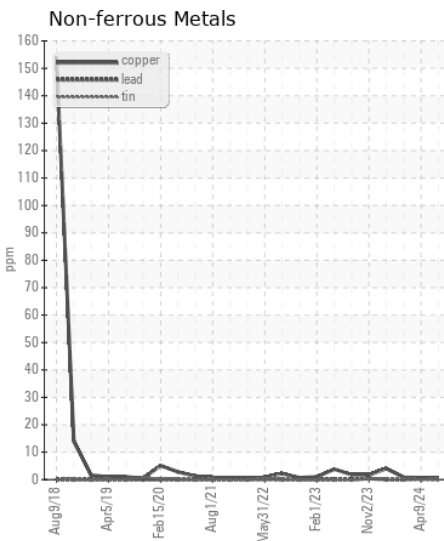
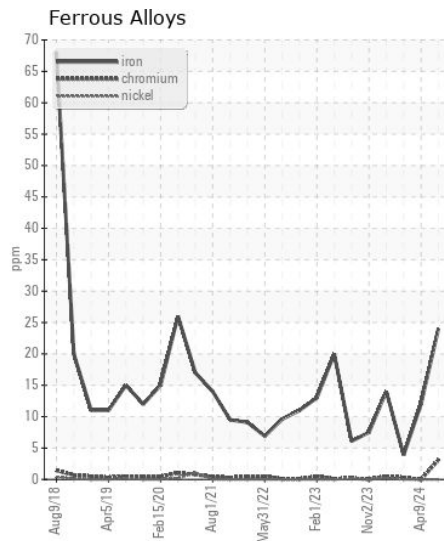
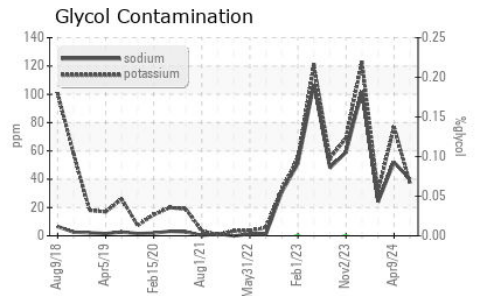
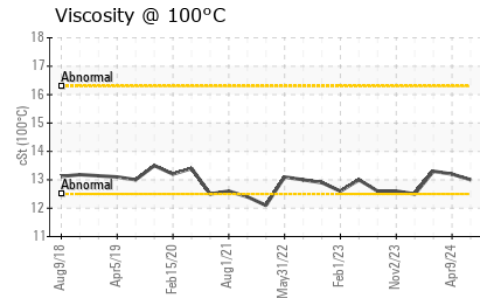
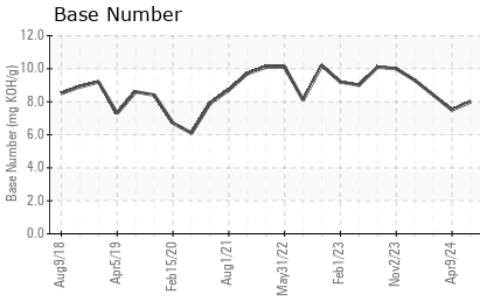
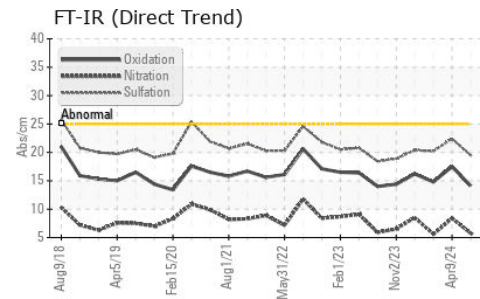
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>7</b>	5	5
Potassium	ppm	ASTM D5185m	>20	<b>37</b>	77	31
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>0.1</b>	0.3	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.8</b>	8.4	5.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.5</b>	22.4	20.2
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	>150	<b>40</b>	52	24
Boron	ppm	ASTM D5185m		<b>367</b>	254	284
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>81</b>	95	70
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>412</b>	583	524
Calcium	ppm	ASTM D5185m		<b>1298</b>	1520	1239
Phosphorus	ppm	ASTM D5185m		<b>994</b>	1171	981
Zinc	ppm	ASTM D5185m		<b>1182</b>	1443	1121
Sulfur	ppm	ASTM D5185m		<b>3471</b>	4069	2979
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.1</b>	17.5	14.8
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.0</b>	7.5	8.4
Visc @ 100°C	cSt	ASTM D445		<b>13.0</b>	13.2	13.3



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0925975  
**Lab Number** : 06196520  
**Unique Number** : 11058643  
**Test Package** : FLEET ( Additional Tests: Glycol )

**Received** : 31 May 2024  
**Tested** : 03 Jun 2024  
**Diagnosed** : 03 Jun 2024 - Don Baldrige

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)

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