



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 2-201**  
Component  
**Diesel Engine**  
Fluid  
**UNOCAL 76 GUARDOL QLT 15W40 (52 QTS)**

## RECOMMENDATION

We advise that you check for possible coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0834191</b>	WC0337179	WC0665089
Sample Date		Client Info		<b>27 Dec 2023</b>	07 Dec 2022	31 May 2022
Machine Age	hrs	Client Info		<b>25292</b>	23478	27615
Oil Age	hrs	Client Info		<b>1051</b>	863	862
Filter Age	hrs	Client Info		<b>1051</b>	863	862
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	<b>31</b>	15	15
Chromium	ppm	ASTM D5185m	>5	<b>2</b>	1	1
Nickel	ppm	ASTM D5185m	>2	<b>1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>30	<b>6</b>	4	4
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>150	<b>6</b>	6	5
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	2	<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

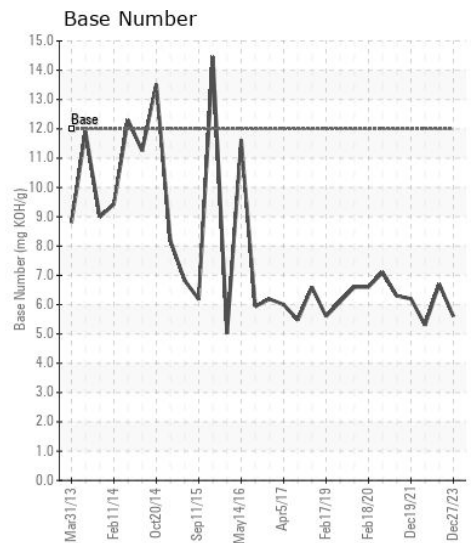
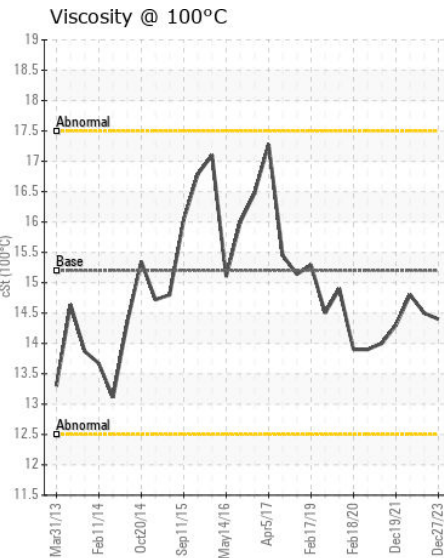
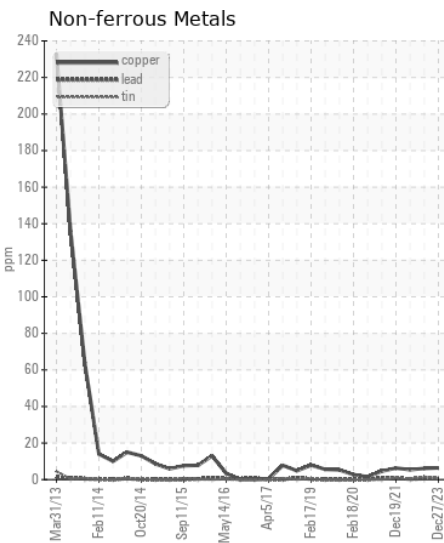
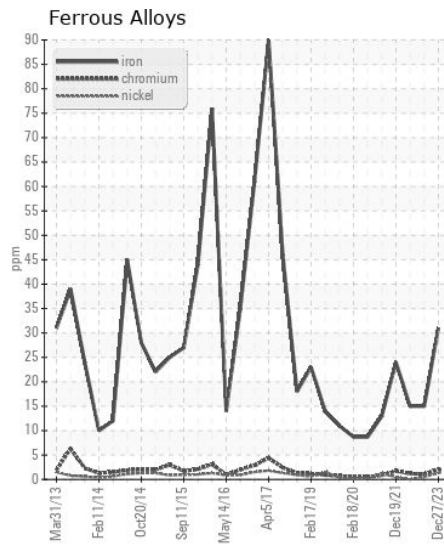
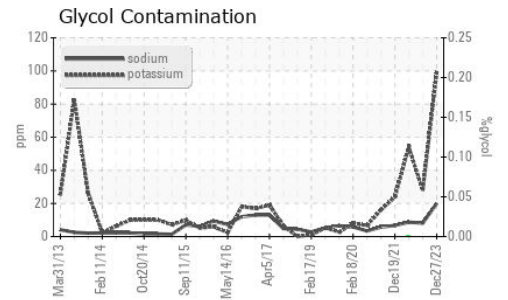
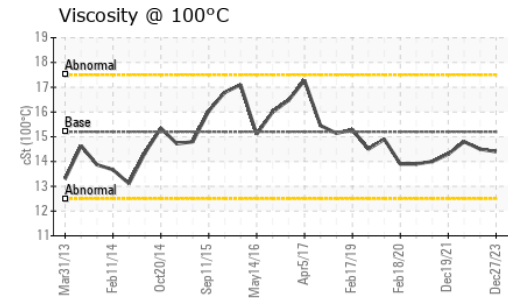
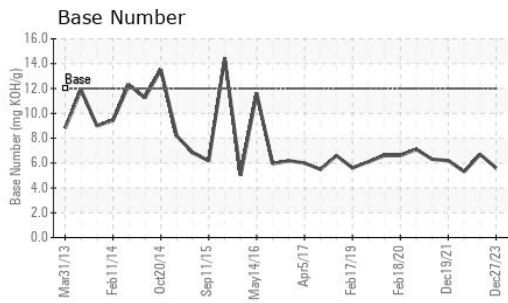
Sodium and/or potassium levels are high.

Silicon	ppm	ASTM D5185m	>20	<b>6</b>	7	6
Potassium	ppm	ASTM D5185m	>20	<b>99</b>	28	54
Fuel		WC Method	>5	<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	0.0
Soot %	%	*ASTM D7844	>3	<b>1</b>	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.9</b>	10.5	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>25.5</b>	24.5	22.9
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.

Sodium	ppm	ASTM D5185m		<b>20</b>	8	9
Boron	ppm	ASTM D5185m		<b>14</b>	46	54
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>7</b>	25	72
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>840</b>	685	650
Calcium	ppm	ASTM D5185m		<b>1478</b>	1435	1351
Phosphorus	ppm	ASTM D5185m		<b>812</b>	709	643
Zinc	ppm	ASTM D5185m	1300	<b>950</b>	864	763
Sulfur	ppm	ASTM D5185m		<b>3189</b>	2904	2839
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.3</b>	18.3	18.5
Base Number (BN)	mg KOH/g	ASTM D2896	12.0	<b>5.6</b>	6.7	5.3
Visc @ 100°C	cSt	ASTM D445	15.2	<b>14.4</b>	14.5	14.8



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0834191 **Received** : 08 Jan 2024  
**Lab Number** : 06054691 **Diagnosed** : 10 Jan 2024  
**Unique Number** : 10820640 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol )

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Certificate L2367  
 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)