OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 3772
Component
Diesel Engine
Fluid
SHELL 15W40 (46 QTS)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

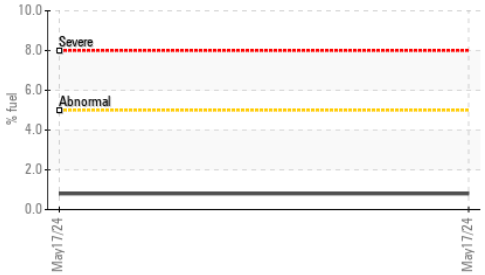
Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

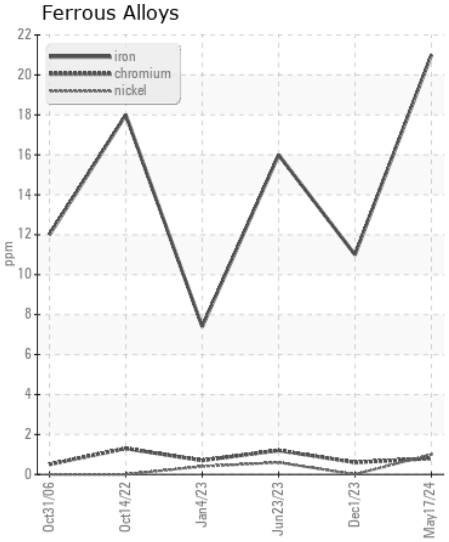
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0879871**	WC0845603	WC0801845
Sample Date		Client Info		**17 May 2024**	01 Dec 2023	23 Jun 2023
Machine Age	mls	Client Info		**189916**	151250	0
Oil Age	mls	Client Info		**25000**	0	25000
Filter Age	mls	Client Info		**25000**	0	25000
Oil Changed		Client Info		**Changed**	N/A	N/A
Filter Changed		Client Info		**Changed**	N/A	N/A
Sample Status				**NORMAL**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>85	**21**	11	16
Chromium	ppm	ASTM D5185m	>5	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>4	**1**	0	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>40	**6**	1	5
Lead	ppm	ASTM D5185m	>10	**2**	<1	1
Copper	ppm	ASTM D5185m	>100	**3**	<1	1
Tin	ppm	ASTM D5185m	>4	**1**	0	1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>15	**8**	5	6
Potassium	ppm	ASTM D5185m	>20	**11**	3	12
Fuel	%	ASTM D3524	>5	**0.8**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	*ASTM D7844	>3	**0.3**	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**8.7**	9.4	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.1**	21.1	25.2
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	**NEG**	NEG	NEG
Sodium	ppm	ASTM D5185m	>150	**2**	1	2
Boron	ppm	ASTM D5185m		**117**	4	27
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**96**	65	33
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**466**	890	482
Calcium	ppm	ASTM D5185m		**1381**	1163	1779
Phosphorus	ppm	ASTM D5185m		**987**	890	1013
Zinc	ppm	ASTM D5185m		**1225**	1201	1296
Sulfur	ppm	ASTM D5185m		**3157**	2803	3902
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.9**	18.4	21.6
Base Number (BN)	mg KOH/g	ASTM D2896		**4.6**	7.1	6.2
Visc @ 100°C	cSt	ASTM D445		**12.4**	12.7	13.6

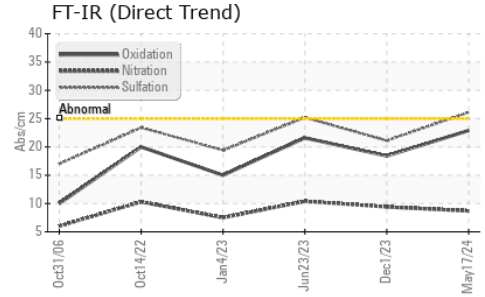
Fuel Dilution



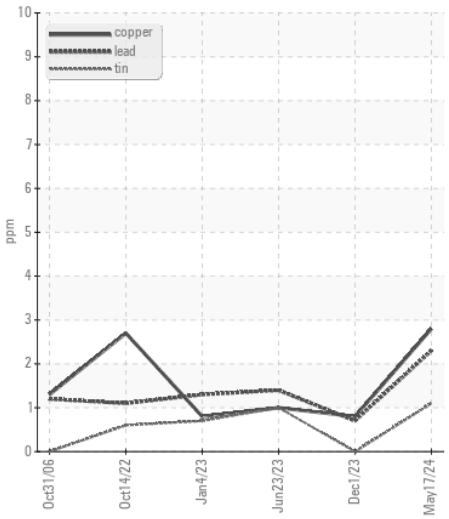
Ferrous Alloys



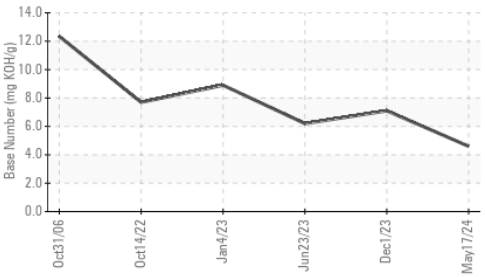
FT-IR (Direct Trend)



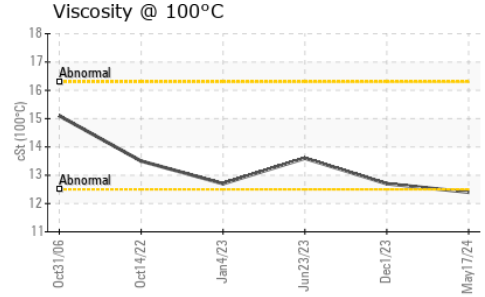
Non-ferrous Metals



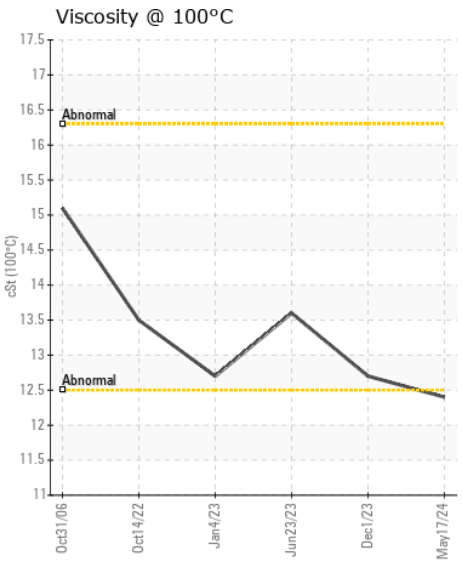
Base Number



Viscosity @ 100°C



Viscosity @ 100°C



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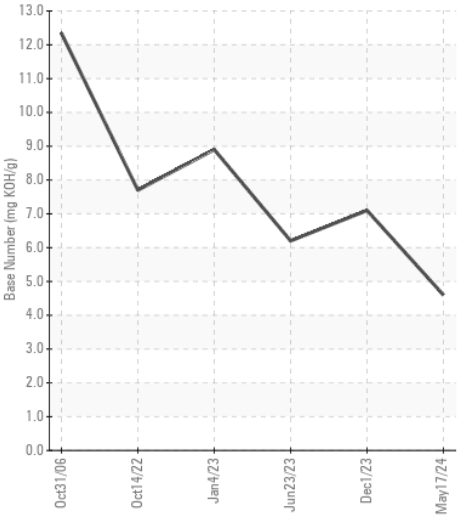

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0879871 **Received** : 28 May 2024
Lab Number : 06193436 **Tested** : 31 May 2024
Unique Number : 11050188 **Diagnosed** : 31 May 2024 - Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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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