FLEET WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
FREIGHTLINER FTL-170
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (11 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

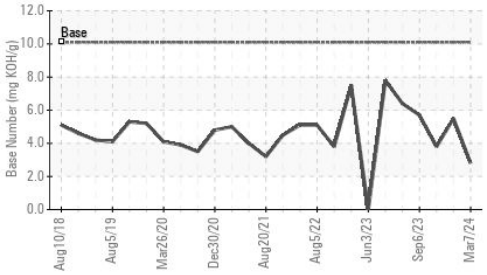
There is no indication of any contamination in the oil.

FLUID CONDITION

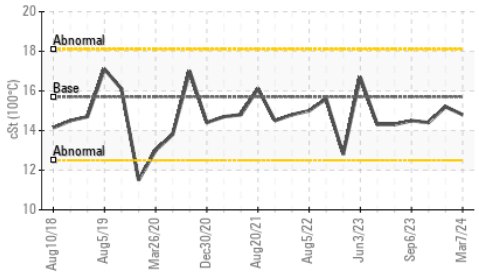
The BN level is low. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0011735	KL0011813	KL0011563
Sample Date		Client Info		07 Mar 2024	07 Dec 2023	06 Oct 2023
Machine Age	mls	Client Info		357085	335768	318324
Oil Age	mls	Client Info		38761	17444	30947
Filter Age	mls	Client Info		38761	17444	30947
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>80	33	8	26
Chromium	ppm	ASTM D5185m	>5	2	<1	2
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>30	8	2	6
Lead	ppm	ASTM D5185m	>30	13	4	8
Copper	ppm	ASTM D5185m	>150	2	<1	3
Tin	ppm	ASTM D5185m	>5	1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	7	4	6
Potassium	ppm	ASTM D5185m	>20	2	<1	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.3	0.5
Nitration	Abs/cm	*ASTM D7624	>20	10.9	9.0	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.5	23.3	26.4
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		5	1	6
Boron	ppm	ASTM D5185m	316	28	17	14
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	47	40	53
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	458	463	549
Calcium	ppm	ASTM D5185m	2292	1608	1369	1758
Phosphorus	ppm	ASTM D5185m	1064	1009	829	1072
Zinc	ppm	ASTM D5185m	1160	1232	1113	1385
Sulfur	ppm	ASTM D5185m	4996	2777	2351	2760
Oxidation	Abs/.1mm	*ASTM D7414	>25	31.8	20.7	26.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	▲ 2.8	5.5	3.8
Visc @ 100°C	cSt	ASTM D445	15.7	14.8	15.2	14.4

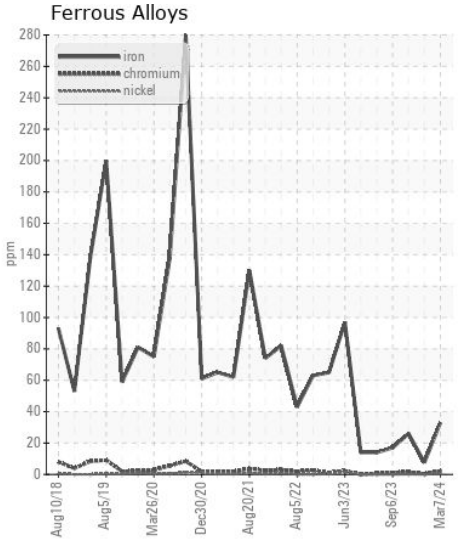
Base Number



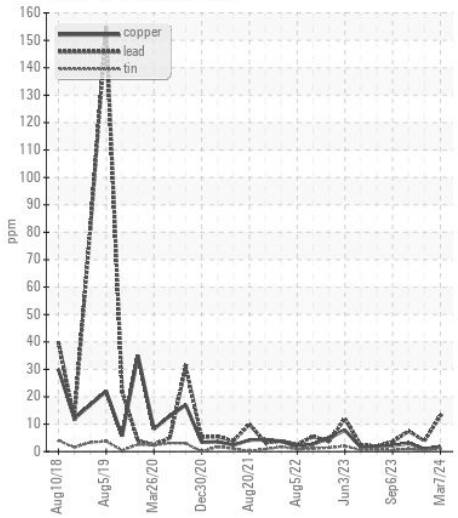
Viscosity @ 100°C



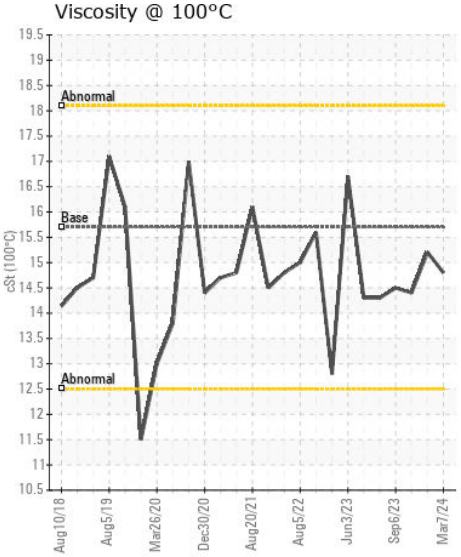
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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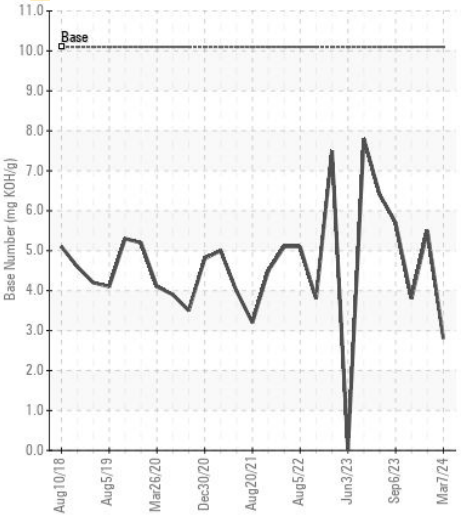

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0011735
Lab Number : 06121945
Unique Number : 10936096
Test Package : FLEET

Received : 19 Mar 2024
Tested : 19 Mar 2024
Diagnosed : 21 Mar 2024 - Jonathan Hester

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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