FLEET WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER AL-280
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (46 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

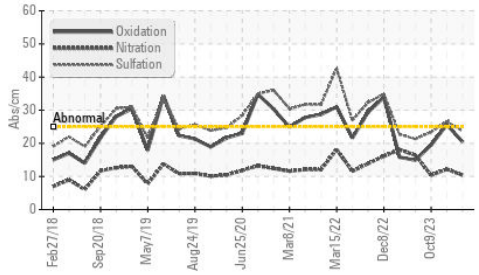
There is no indication of any contamination in the oil.

FLUID CONDITION

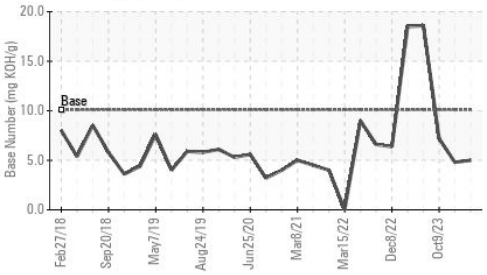
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013614	KL0011731	KL0011566
Sample Date		Client Info		25 Jun 2024	23 Jan 2024	09 Oct 2023
Machine Age	mls	Client Info		378225	361758	347165
Oil Age	mls	Client Info		16467	29852	15259
Filter Age	mls	Client Info		16467	29852	15259
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Filter Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>165	26	90	73
Chromium	ppm	ASTM D5185m	>5	<1	2	2
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	5	5
Lead	ppm	ASTM D5185m	>150	4	14	11
Copper	ppm	ASTM D5185m	>90	6	25	31
Tin	ppm	ASTM D5185m	>5	1	2	2
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	>35	7	21	27
Potassium	ppm	ASTM D5185m	>20	8	21	24
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>7.5	0.3	1.1	1.2
Nitration	Abs/cm	*ASTM D7624	>20	10.4	12.2	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.7	26.5	23.4
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		6	13	16
Boron	ppm	ASTM D5185m	316	25	23	27
Barium	ppm	ASTM D5185m	0.0	0	3	0
Molybdenum	ppm	ASTM D5185m	1.2	42	42	44
Manganese	ppm	ASTM D5185m		<1	2	2
Magnesium	ppm	ASTM D5185m	24	407	423	431
Calcium	ppm	ASTM D5185m	2292	1668	1636	1815
Phosphorus	ppm	ASTM D5185m	1064	990	964	1038
Zinc	ppm	ASTM D5185m	1160	1198	1223	1313
Sulfur	ppm	ASTM D5185m	4996	3319	2680	2996
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.4	25.6	19.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	5.0	4.8	7.2
Visc @ 100°C	cSt	ASTM D445	15.7	13.5	14.6	14.4

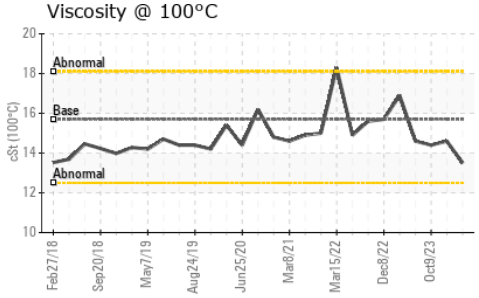
FT-IR (Direct Trend)



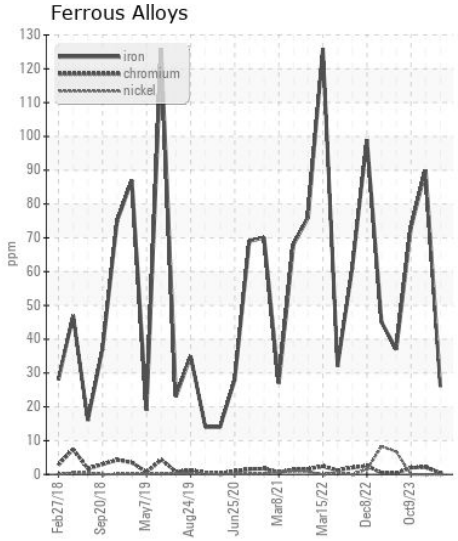
Base Number



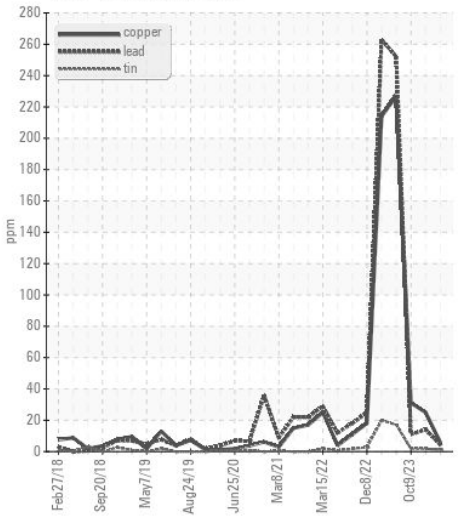
Viscosity @ 100°C



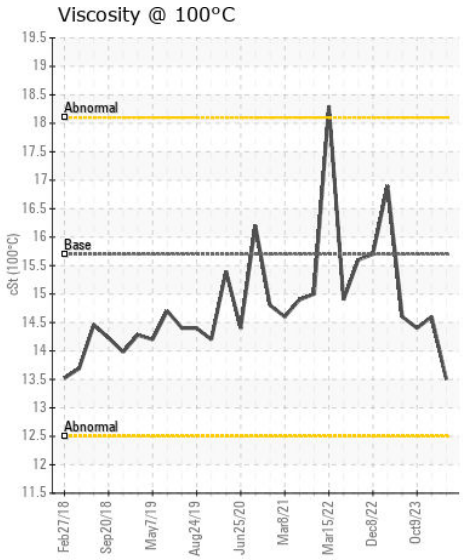
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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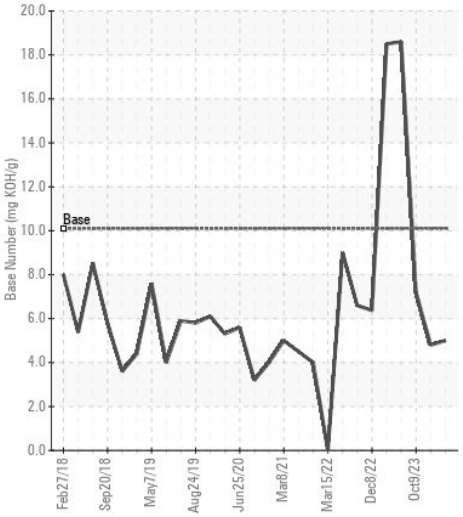

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013614
Lab Number : 06231975
Unique Number : 11115468
Test Package : FLEET

Received : 10 Jul 2024
Tested : 10 Jul 2024
Diagnosed : 10 Jul 2024 - Wes Davis

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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