



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 308E

Component
Diesel Engine

Fluid
SHELL ROTELLA T 15W40 (18 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013277	KL0013272	KL0011652
Sample Date		Client Info		26 Jan 2024	11 Oct 2023	12 Jul 2023
Machine Age	hrs	Client Info		63492	0	7898
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	55	56	47
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	5	4
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	5	7	4
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

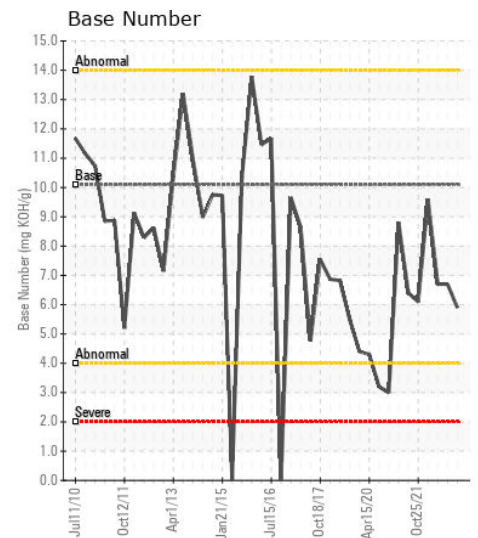
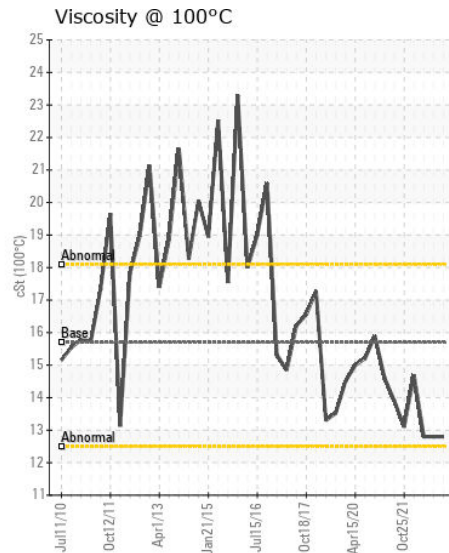
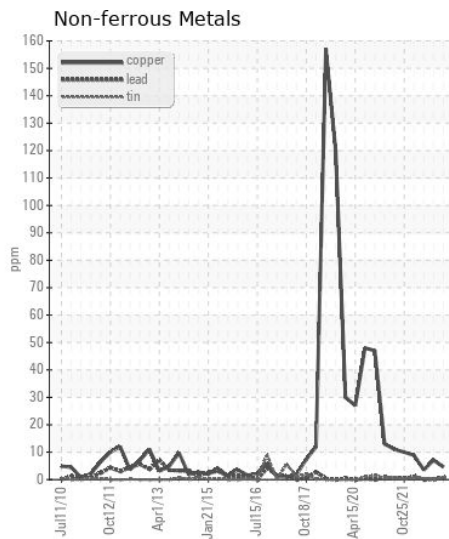
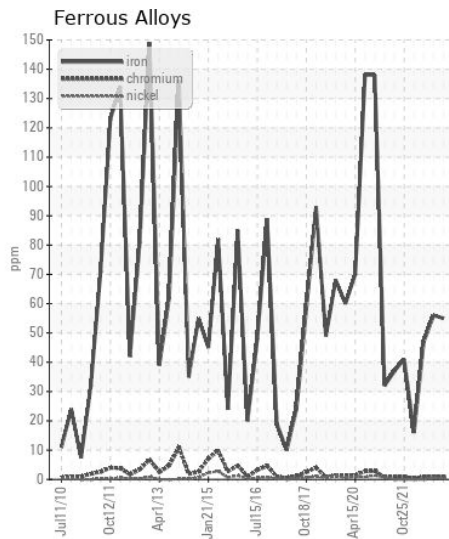
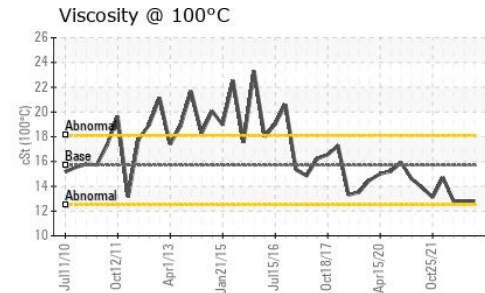
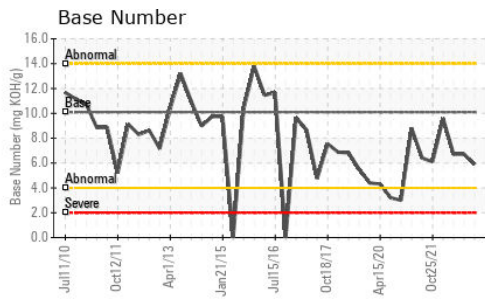
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	13	14	12
Potassium	ppm	ASTM D5185m	>20	4	6	1
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	>6	1.2	1	0.9
Nitration	Abs/cm	*ASTM D7624	>20	11.7	11.0	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.2	26.7	25.7
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

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		8	4	6
Boron	ppm	ASTM D5185m	316	74	121	186
Barium	ppm	ASTM D5185m	0.0	0	3	0
Molybdenum	ppm	ASTM D5185m	1.2	93	111	115
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	448	470	539
Calcium	ppm	ASTM D5185m	2292	1218	1364	1535
Phosphorus	ppm	ASTM D5185m	1064	753	781	897
Zinc	ppm	ASTM D5185m	1160	916	1011	1095
Sulfur	ppm	ASTM D5185m	4996	2587	3241	3913
Oxidation	Abs/.1mm	*ASTM D7414	>25	28.2	26.1	24.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	5.9	6.7	6.7
Visc @ 100°C	cSt	ASTM D445	15.7	12.8	12.8	12.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : KL0013277

Lab Number : 06089444

Unique Number : 10876889

Test Package : FLEET

Received : 14 Feb 2024

Tested : 15 Feb 2024

Diagnosed : 16 Feb 2024 - Don Baldrige

CITY OF ARTESIA

P.O. BOX 1310

ARTESIA, NM

US 88211

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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)