



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER AL-200

Component
Diesel Engine

Fluid
SHELL ROTELLA T 15W40 (46 QTS)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend an early resample to monitor this condition.

WEAR

The chromium level is abnormal. All other component wear rates are normal.

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

FLUID CONDITION

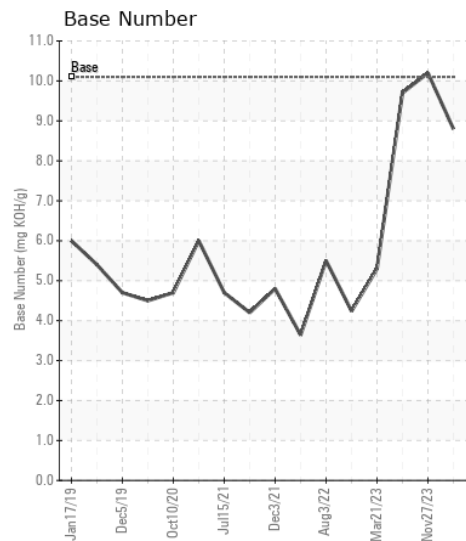
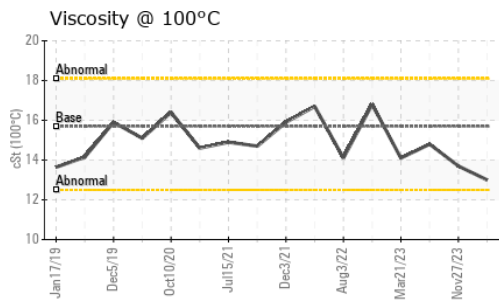
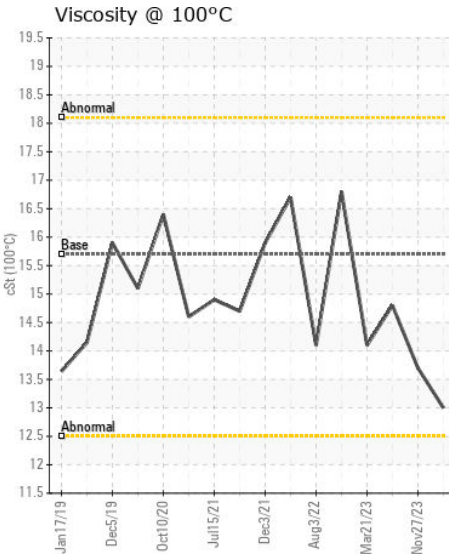
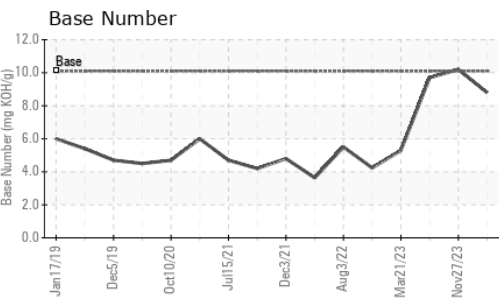
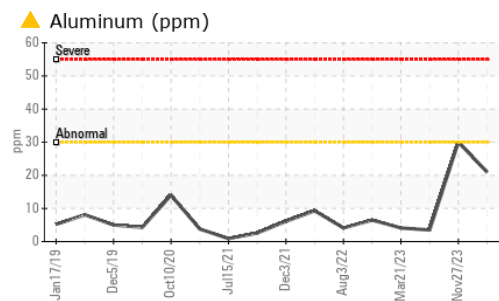
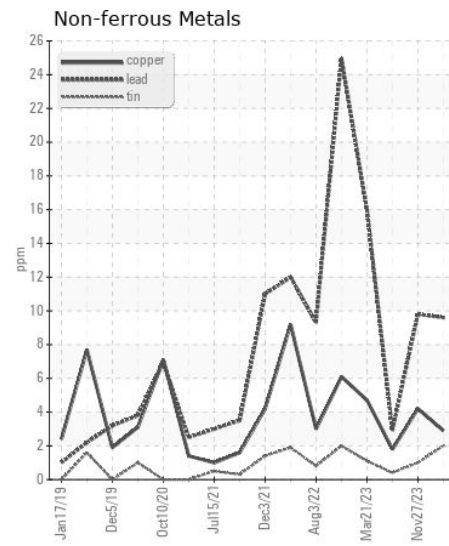
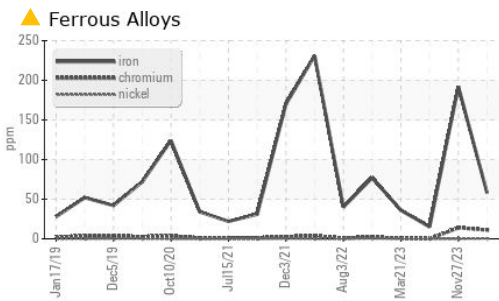
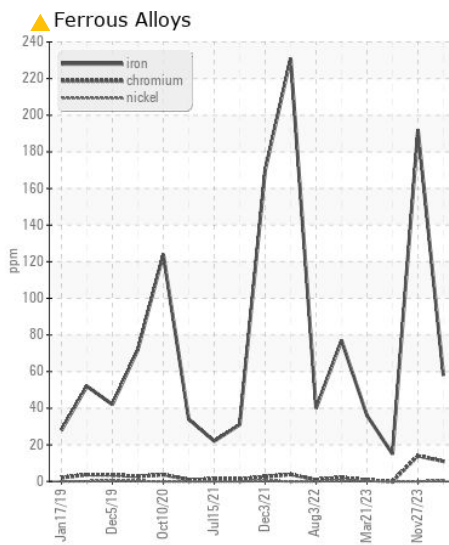
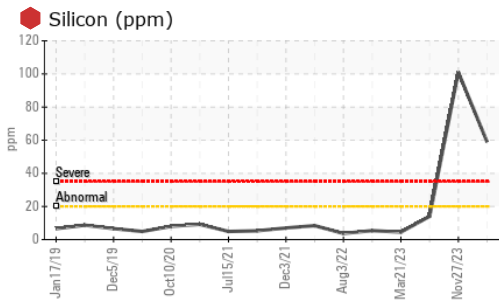
The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0011810	KL0011816	KL0008466
Sample Date		Client Info		06 Jan 2024	27 Nov 2023	05 May 2023
Machine Age	mls	Client Info		282843	282349	266267
Oil Age	mls	Client Info		494	16082	19889
Filter Age	mls	Client Info		494	16082	19889
Oil Changed		Client Info		Not Changd	Changed	Changed
Filter Changed		Client Info		Not Changd	Changed	Changed
Sample Status				SEVERE	SEVERE	NORMAL

Iron	ppm	ASTM D5185m	>80	58	192	15
Chromium	ppm	ASTM D5185m	>5	11	14	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		1	2	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	21	30	4
Lead	ppm	ASTM D5185m	>30	10	10	3
Copper	ppm	ASTM D5185m	>150	3	4	2
Tin	ppm	ASTM D5185m	>5	2	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

Silicon	ppm	ASTM D5185m	>20	59	101	14
Potassium	ppm	ASTM D5185m	>20	6	9	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	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	5.6	5.2	4.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.5	21.0	18.5
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		<1	3	<1
Boron	ppm	ASTM D5185m	316	78	58	1
Barium	ppm	ASTM D5185m	0.0	0	2	0
Molybdenum	ppm	ASTM D5185m	1.2	36	34	62
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	24	344	395	413
Calcium	ppm	ASTM D5185m	2292	1618	1690	1831
Phosphorus	ppm	ASTM D5185m	1064	971	715	1025
Zinc	ppm	ASTM D5185m	1160	1108	903	1273
Sulfur	ppm	ASTM D5185m	4996	3112	2633	3879
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.3	17.4	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	8.8	10.2	9.7
Visc @ 100°C	cSt	ASTM D445	15.7	13.0	13.7	14.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0011810 **Received** : 16 Jan 2024
Lab Number : 06060925 **Diagnosed** : 17 Jan 2024
Unique Number : 10832307 **Diagnostician** : Jonathan Hester
Test Package : FLEET

FTL LTD
 2302 E DUPONT AVE
 BELLE, WV
 US 25015
 Contact: JOHN SMITH
 johnhotrodsmith@gmail.com

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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F: