



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 19952

Component
Diesel Engine

Fluid
SHELL 15W40 (44 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0847833	WC0871944	WC0847868
Sample Date		Client Info		12 Feb 2024	22 Dec 2023	17 Nov 2023
Machine Age	mls	Client Info		622941	616647	16849
Oil Age	mls	Client Info		10941	29732	0
Filter Age	mls	Client Info		10941	29732	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	5	6	3
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>30	3	4	3
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	<1	<1	<1
Tin	ppm	ASTM D5185m	>5	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

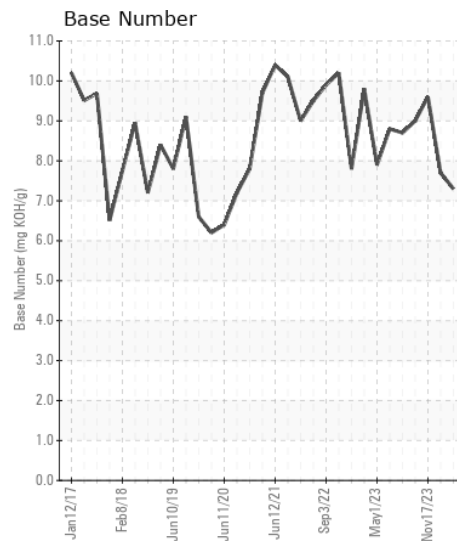
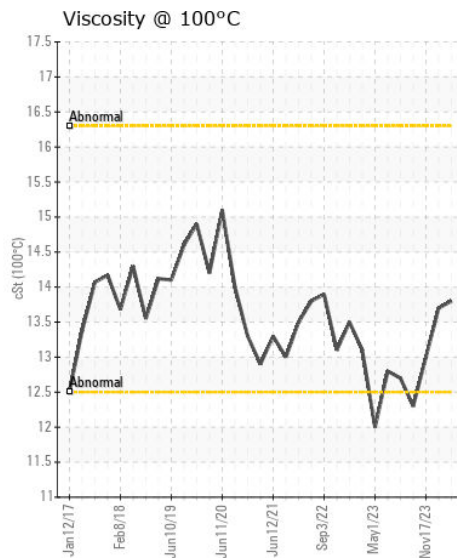
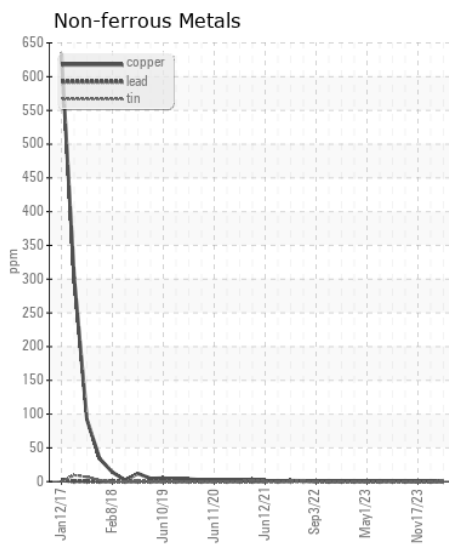
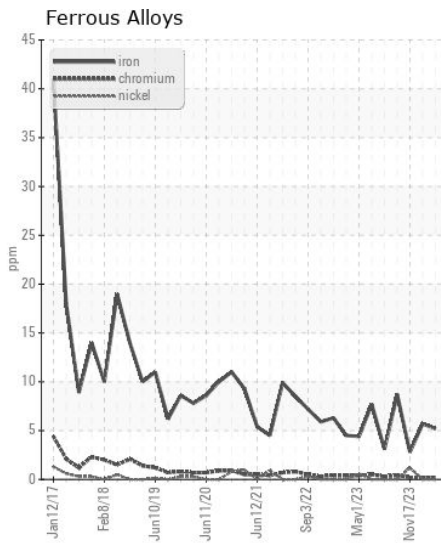
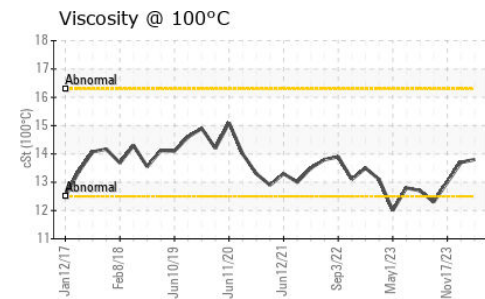
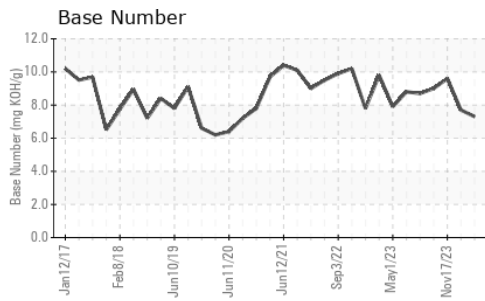
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	4	5	3
Potassium	ppm	ASTM D5185m	>20	0	3	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	0.2	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	6.0	6.3	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.2	20.6	19.3
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	>150	<1	2	1
Boron	ppm	ASTM D5185m		377	310	7
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		79	80	63
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		380	531	920
Calcium	ppm	ASTM D5185m		1279	1287	1064
Phosphorus	ppm	ASTM D5185m		961	1090	1022
Zinc	ppm	ASTM D5185m		1175	1293	1269
Sulfur	ppm	ASTM D5185m		3067	3350	3233
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.3	14.7	14.6
Base Number (BN)	mg KOH/g	ASTM D2896		7.3	7.7	9.6
Visc @ 100°C	cSt	ASTM D445		13.8	13.7	13.0



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0847833
Lab Number : 06097440
Unique Number : 10890293
Test Package : FLEET
Received : 22 Feb 2024
Tested : 23 Feb 2024
Diagnosed : 23 Feb 2024 - Wes Davis

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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)