



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 29207
Component
Diesel Engine
Fluid
SHELL 15W40 (46 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0904936	WC0857645	WC0817770
Sample Date		Client Info		22 Feb 2024	11 Dec 2023	05 Sep 2023
Machine Age	mls	Client Info		630191	607611	581266
Oil Age	mls	Client Info		22980	0	10147
Filter Age	mls	Client Info		22980	0	10147
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	25	37	26
Chromium	ppm	ASTM D5185m	>5	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	11	12	7
Lead	ppm	ASTM D5185m	>30	0	1	0
Copper	ppm	ASTM D5185m	>150	3	6	3
Tin	ppm	ASTM D5185m	>5	0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

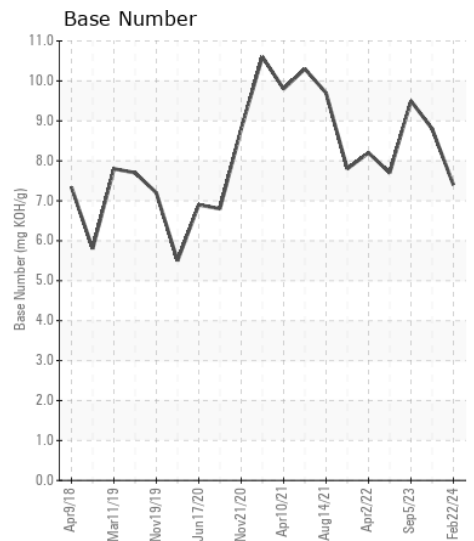
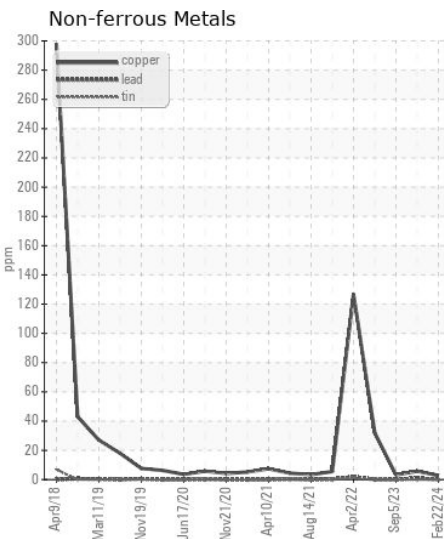
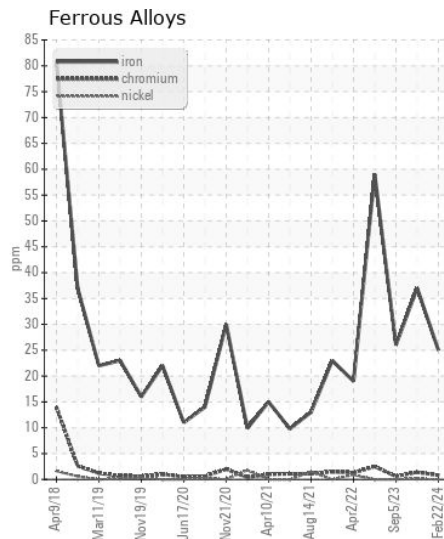
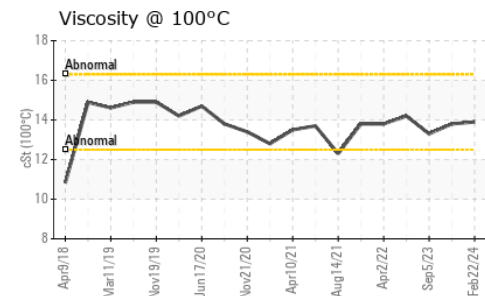
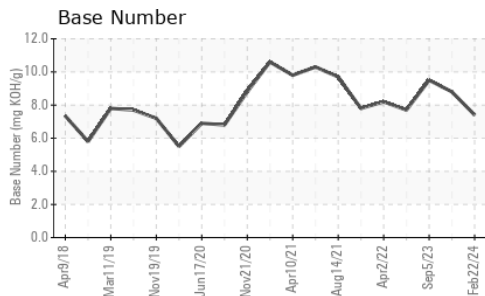
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	7	7	4
Potassium	ppm	ASTM D5185m	>20	1	1	<1
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	0.5	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.7	8.1	6.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.3	20.5	18.6
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	0	1
Boron	ppm	ASTM D5185m		119	<1	5
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		69	61	67
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		698	967	1177
Calcium	ppm	ASTM D5185m		1172	1082	1375
Phosphorus	ppm	ASTM D5185m		1025	913	1173
Zinc	ppm	ASTM D5185m		1246	1261	1449
Sulfur	ppm	ASTM D5185m		3008	3153	4497
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.0	16.3	13.9
Base Number (BN)	mg KOH/g	ASTM D2896		7.4	8.8	9.5
Visc @ 100°C	cSt	ASTM D445		13.9	13.8	13.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0904936
Lab Number : 06103598
Unique Number : 10901828
Test Package : FLEET

Received : 28 Feb 2024
Tested : 29 Feb 2024
Diagnosed : 29 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)