



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 45908
Component
Diesel Engine
Fluid
SHELL 15W40 (22 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0949453	WC0897163	WCMFC28918
Sample Date		Client Info		12 Jun 2024	07 Mar 2024	01 May 2021
Machine Age	mls	Client Info		211934	0	120300
Oil Age	mls	Client Info		0	0	20000
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	10	6	18
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	4	3
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	<1	1	<1
Tin	ppm	ASTM D5185m	>15	0	0	<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

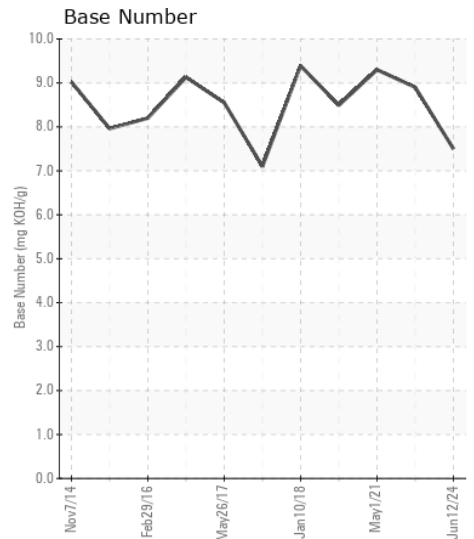
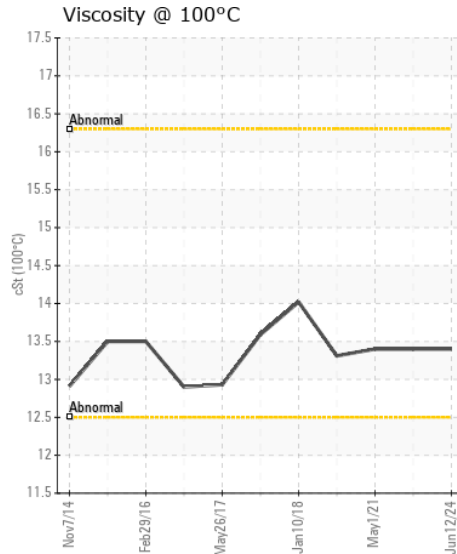
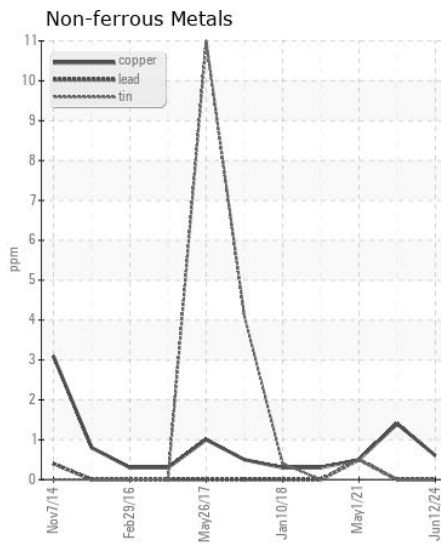
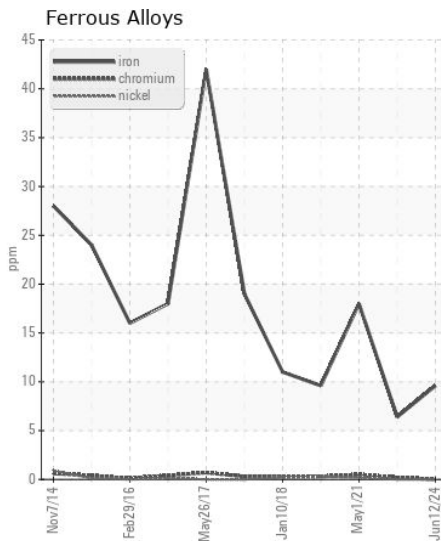
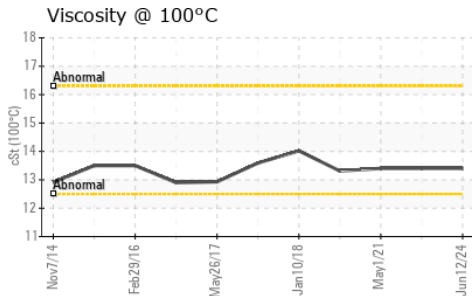
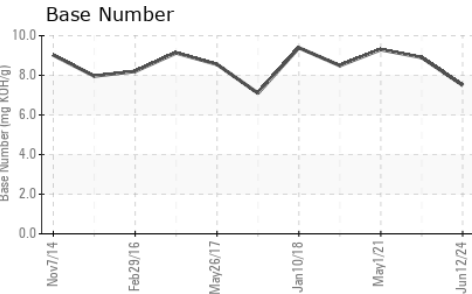
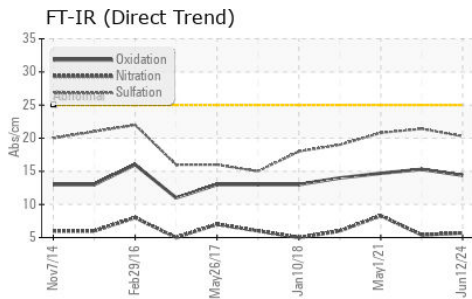
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	4	3
Potassium	ppm	ASTM D5185m	>20	2	0	4
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	0.1	0.1	0.4
Nitration	Abs/cm	*ASTM D7624	>20	5.7	5.4	8.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.3	21.4	20.8
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	<1	2
Boron	ppm	ASTM D5185m		354	356	7
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		86	96	43
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		399	549	642
Calcium	ppm	ASTM D5185m		1440	1331	1565
Phosphorus	ppm	ASTM D5185m		991	851	1036
Zinc	ppm	ASTM D5185m		1231	991	1204
Sulfur	ppm	ASTM D5185m		3674	2782	2991
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.4	15.3	14.7
Base Number (BN)	mg KOH/g	ASTM D2896		7.5	8.9	9.3
Visc @ 100°C	cSt	ASTM D445		13.4	13.4	13.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0949453
Lab Number : 06219097
Unique Number : 11097294
Test Package : FLEET
Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 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)