



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER M31207
Component
Diesel Engine
Fluid
DURAMAX 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DC0032250	DC0023073	DC0019256
Sample Date		Client Info		01 Apr 2024	13 Feb 2023	10 Mar 2022
Machine Age	mls	Client Info		133857	131008	127580
Oil Age	mls	Client Info		8317	8040	7688
Filter Age	mls	Client Info		8317	8040	7688
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	28	31	32
Chromium	ppm	ASTM D5185m	>5	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	3	4	3
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	3	1	2
Tin	ppm	ASTM D5185m	>5	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

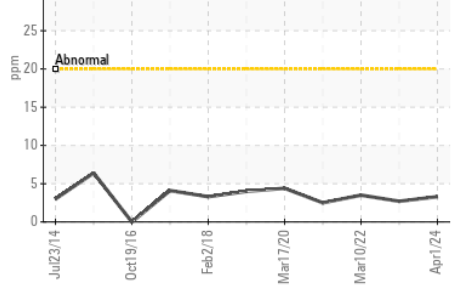
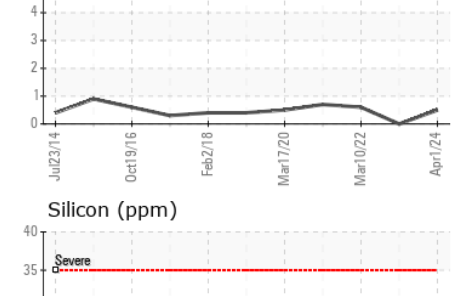
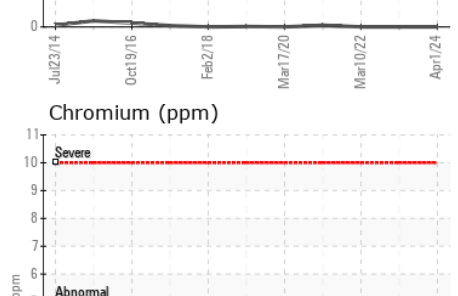
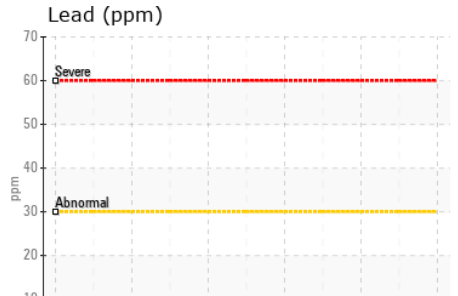
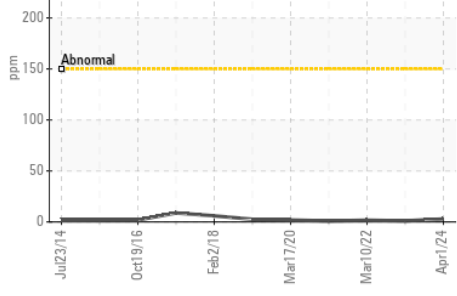
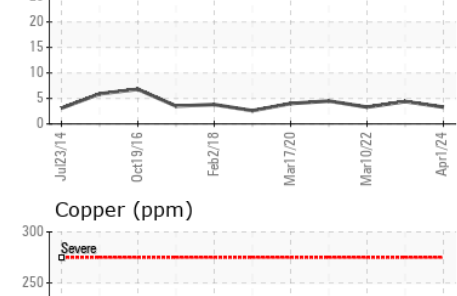
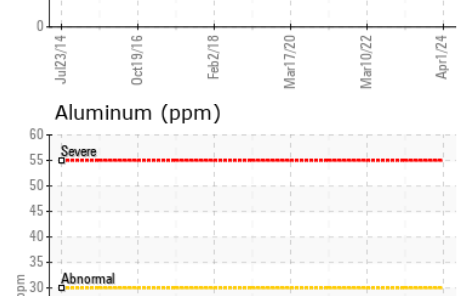
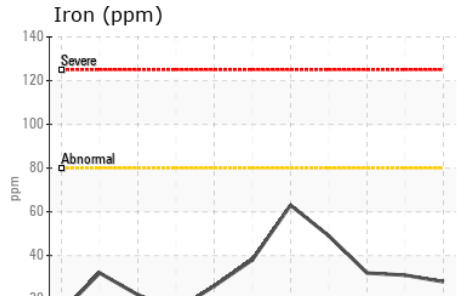
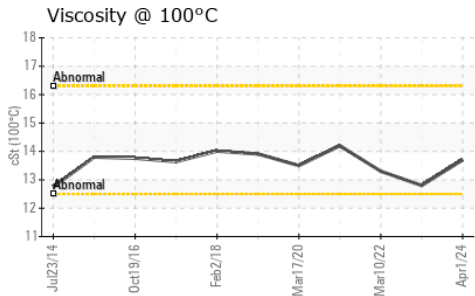
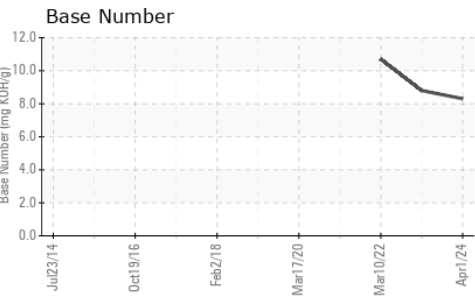
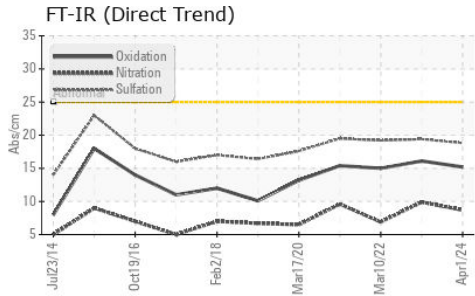
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	3	3	4
Potassium	ppm	ASTM D5185m	>20	4	9	8
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	0.3	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.7	9.9	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.8	19.4	19.2
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m		3	3	6
Boron	ppm	ASTM D5185m		1	2	12
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		58	61	61
Manganese	ppm	ASTM D5185m		1	0	<1
Magnesium	ppm	ASTM D5185m		945	946	887
Calcium	ppm	ASTM D5185m		1055	1134	1176
Phosphorus	ppm	ASTM D5185m		1066	1051	1114
Zinc	ppm	ASTM D5185m		1241	1266	1325
Sulfur	ppm	ASTM D5185m		3506	3189	2806
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	16.1	15.0
Base Number (BN)	mg KOH/g	ASTM D2896		8.3	8.8	10.7
Visc @ 100°C	cSt	ASTM D445		13.7	12.8	13.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0032250
Lab Number : 06155711
Unique Number : 10991134
Test Package : MOB 1 (Additional Tests: TBN)

Received : 22 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 24 Apr 2024 - Don Baldrige

M&M FLEET
 5046 BUCHANAN ST.
 HYATTSVILLE, MD
 US 20781
 Contact: June McClosky
 office@mmfleet.net
 T: (301)779-4545
 F: x:

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)