



McCLUNG-LOGAN
EQUIPMENT COMPANY, INC.

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
{UNASSIGNED}
Machine Id
FREIGHTLINER M2 106 02-012 (S/N 1FVACWDT0GHHK1277)
Component
Diesel Engine
Fluid
VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		ML0002676	ML0001905	---
Sample Date		Client Info		09 Jul 2024	06 Jun 2024	---
Machine Age	mls	Client Info		192693	184641	---
Oil Age	mls	Client Info		5159	5000	---
Filter Age	mls	Client Info		5159	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	12	12	---
Chromium	ppm	ASTM D5185m	>5	0	0	---
Nickel	ppm	ASTM D5185m	>2	0	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>3	0	0	---
Aluminum	ppm	ASTM D5185m	>30	3	3	---
Lead	ppm	ASTM D5185m	>30	0	<1	---
Copper	ppm	ASTM D5185m	>150	<1	2	---
Tin	ppm	ASTM D5185m	>5	0	0	---
Vanadium	ppm	ASTM D5185m		0	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

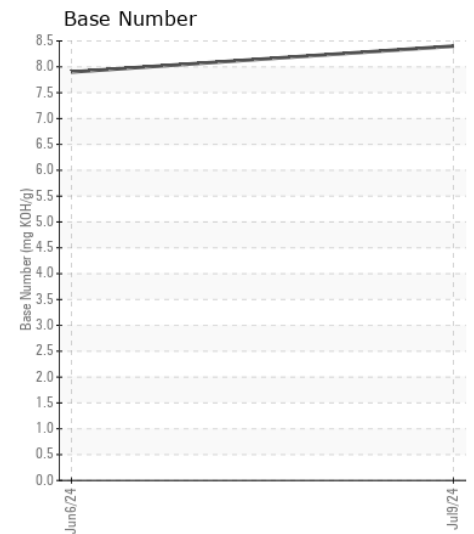
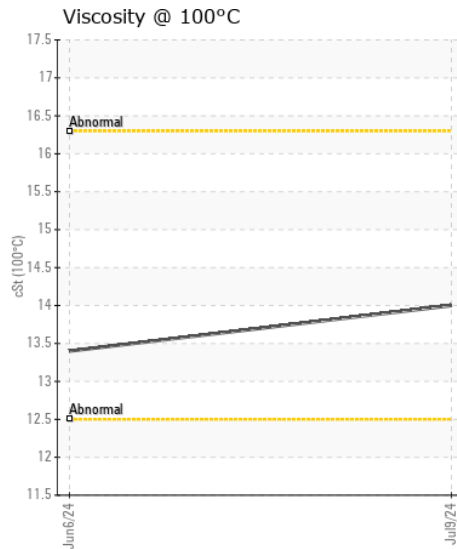
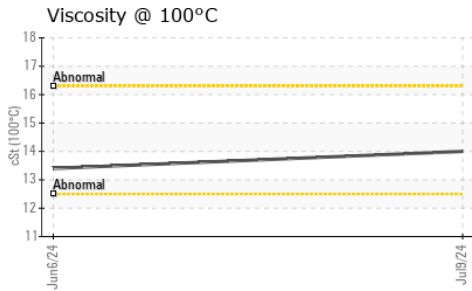
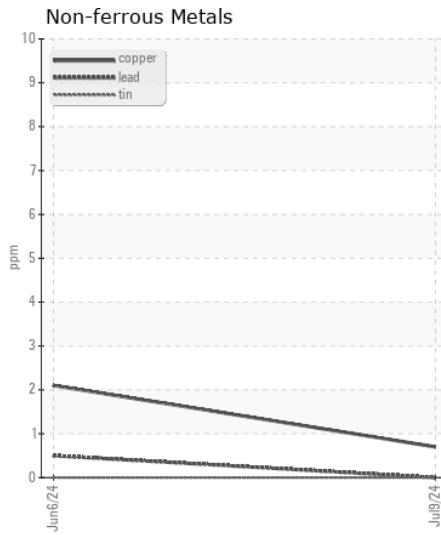
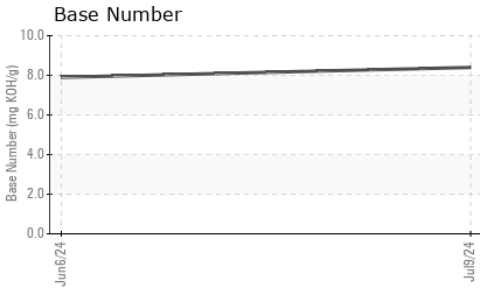
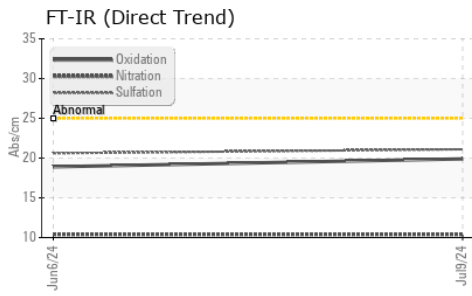
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	6	5	---
Potassium	ppm	ASTM D5185m	>20	2	4	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.4	0.4	---
Nitration	Abs/cm	*ASTM D7624	>20	10.4	10.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.1	20.6	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	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		4	3	---
Boron	ppm	ASTM D5185m		22	42	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		47	56	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		756	766	---
Calcium	ppm	ASTM D5185m		1299	1315	---
Phosphorus	ppm	ASTM D5185m		789	778	---
Zinc	ppm	ASTM D5185m		904	932	---
Sulfur	ppm	ASTM D5185m		2695	2762	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.9	18.9	---
Base Number (BN)	mg KOH/g	ASTM D2896		8.4	7.9	---
Visc @ 100°C	cSt	ASTM D445		14.0	13.4	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : ML0002676

Lab Number : 06235661

Unique Number : 11124495

Test Package : CONST (Additional Tests: TBN)

Received : 15 Jul 2024

Tested : 16 Jul 2024

Diagnosed : 16 Jul 2024 - Don Baldridge

MCCLUNG-LOGAN EQUIPMENT CO - RICHMOND

1345 MOUNTAIN ROAD

GLEN ALLEN, VA

US 23060

Contact: Alex Anderson

aanderson@mcclung-logan.com

T:

F: (804)266-1611

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)