



LEAHY-WOLF
Lubricating specialists since 1946

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 14
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LW0007866	LW0007258	---
Sample Date		Client Info		24 Jun 2024	06 Nov 2023	---
Machine Age	hrs	Client Info		0	0	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		N/A	N/A	---
Filter Changed		Client Info		N/A	N/A	---
Sample Status				ABNORMAL	NORMAL	---

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	50	56	---
Chromium	ppm	ASTM D5185m	>5	2	2	---
Nickel	ppm	ASTM D5185m	>2	<1	<1	---
Titanium	ppm	ASTM D5185m		<1	0	---
Silver	ppm	ASTM D5185m	>3	<1	0	---
Aluminum	ppm	ASTM D5185m	>30	25	25	---
Lead	ppm	ASTM D5185m	>30	<1	0	---
Copper	ppm	ASTM D5185m	>150	▲ 178	10	---
Tin	ppm	ASTM D5185m	>5	<1	<1	---
Vanadium	ppm	ASTM D5185m		<1	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

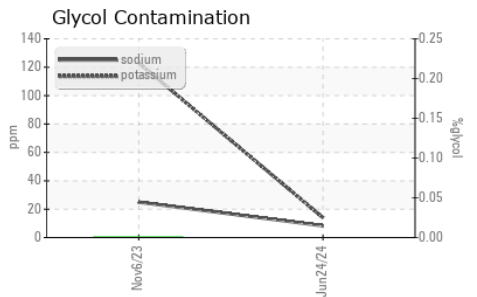
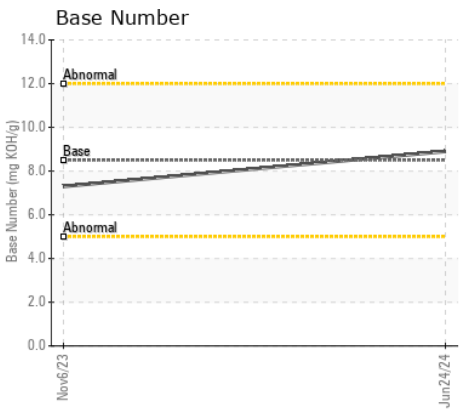
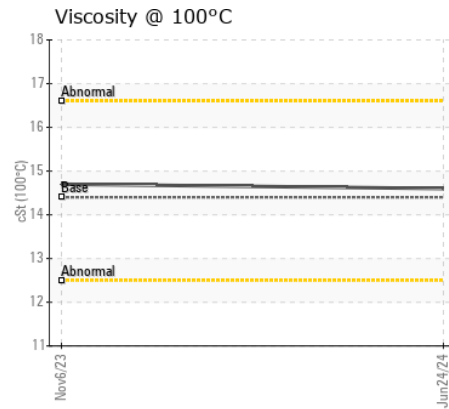
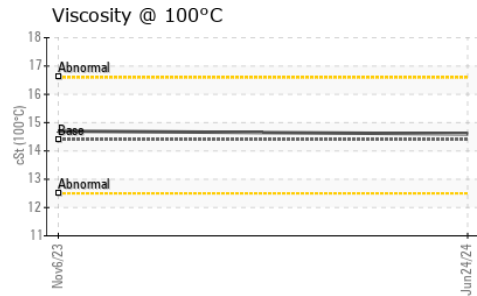
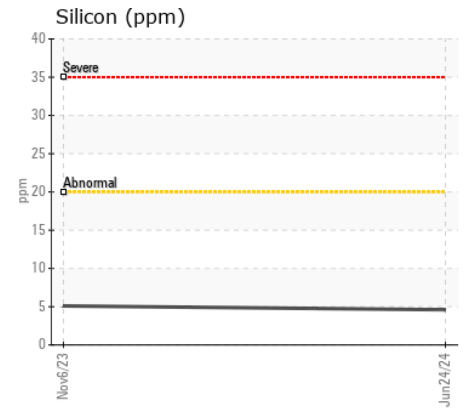
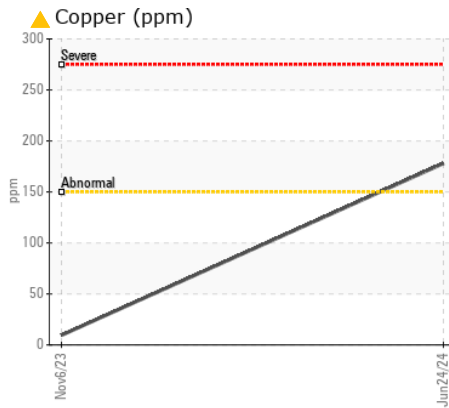
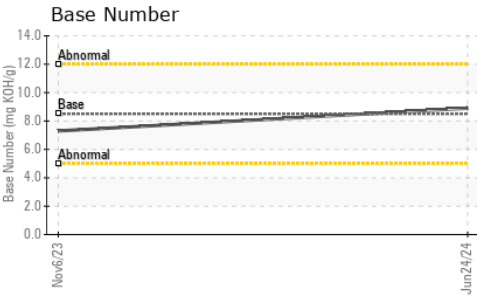
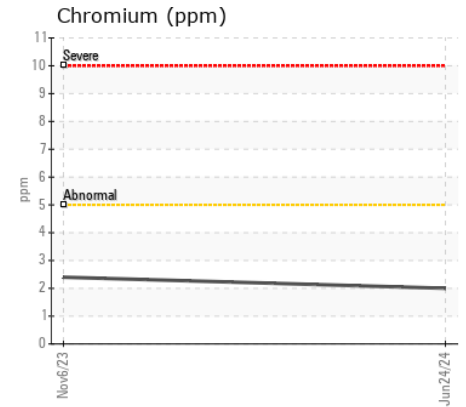
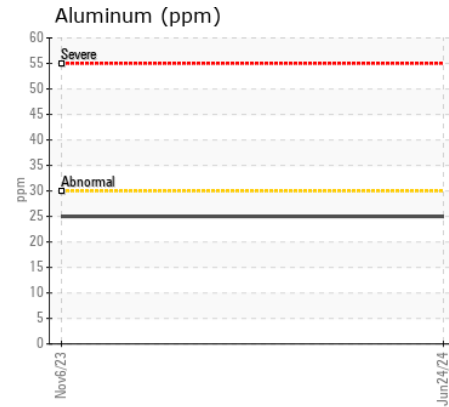
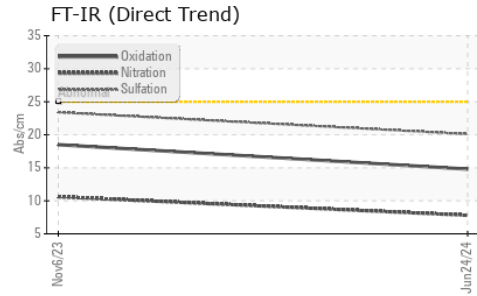
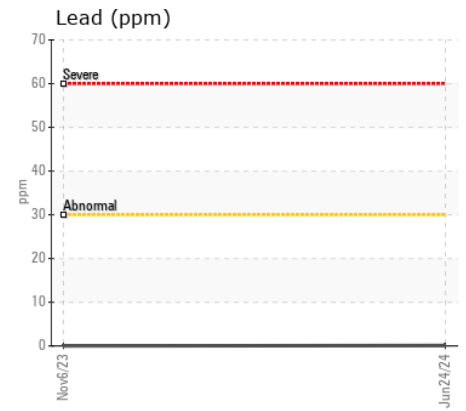
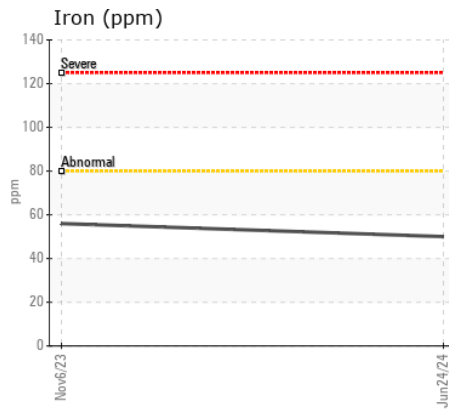
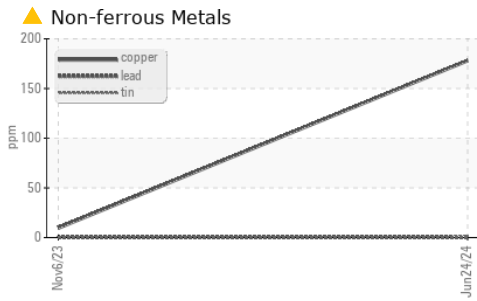
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	5	5	---
Potassium	ppm	ASTM D5185m	>20	14	123	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol	%	*ASTM D2982		NEG	0.0	---
Soot %	%	*ASTM D7844	>3	0.8	1.5	---
Nitration	Abs/cm	*ASTM D7624	>20	7.8	10.6	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.1	23.4	---
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	>216	8	25	---
Boron	ppm	ASTM D5185m	250	3	4	---
Barium	ppm	ASTM D5185m	10	0	0	---
Molybdenum	ppm	ASTM D5185m	100	65	61	---
Manganese	ppm	ASTM D5185m		1	1	---
Magnesium	ppm	ASTM D5185m	450	1061	947	---
Calcium	ppm	ASTM D5185m	3000	1151	1172	---
Phosphorus	ppm	ASTM D5185m	1150	1079	971	---
Zinc	ppm	ASTM D5185m	1350	1357	1299	---
Sulfur	ppm	ASTM D5185m	4250	3241	2750	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	18.5	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.9	7.3	---
Visc @ 100°C	cSt	ASTM D445	14.4	14.6	14.7	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LW0007866
Lab Number : 06222010
Unique Number : 11100207
Test Package : MOB 1 (Additional Tests: Glycol, TBN)

Received : 27 Jun 2024
Tested : 28 Jun 2024
Diagnosed : 28 Jun 2024 - Don Baldrige

LRS - NILES
 33541 REUM RD
 NILES, MI
 US 49120

Contact: JOHN HUGHES

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F:

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)