



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
132164 LIEBHERR LH60 132164
Component
Diesel Engine
Fluid
SHELL ROTELLA T3 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		DJJ0017479	DJJ0021039	DJJ0017447
Sample Date		Client Info		05 Feb 2024	03 Aug 2023	27 Oct 2022
Machine Age	hrs	Client Info		7745	5715	2761
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	2	9	4
Chromium	ppm	ASTM D5185m	>5	0	<1	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	6	2
Lead	ppm	ASTM D5185m	>30	<1	0	<1
Copper	ppm	ASTM D5185m	>125	<1	2	2
Tin	ppm	ASTM D5185m	>5	<1	<1	<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

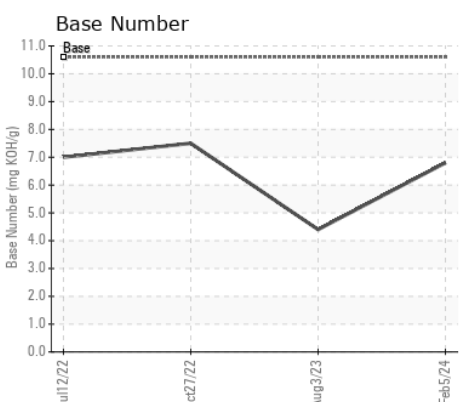
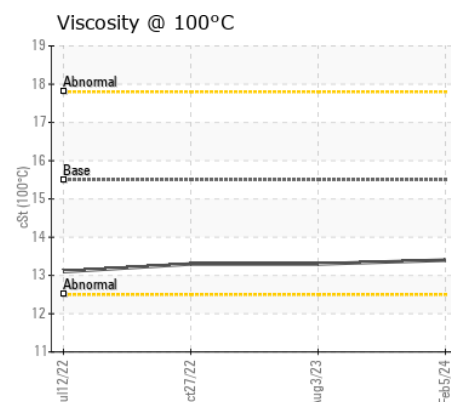
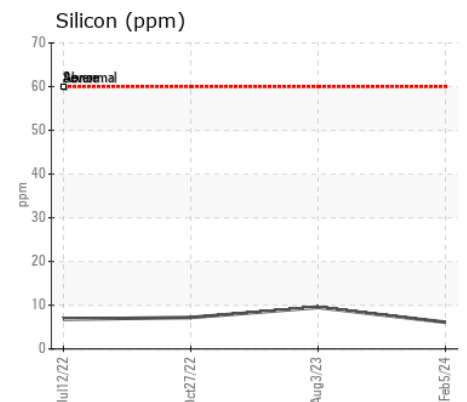
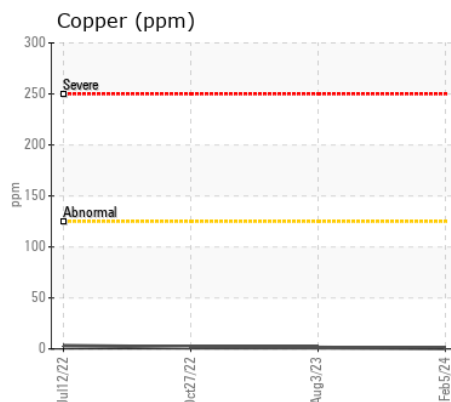
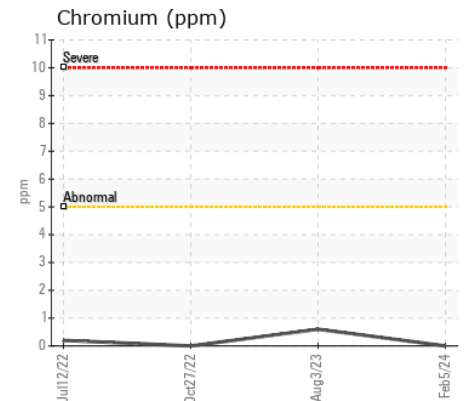
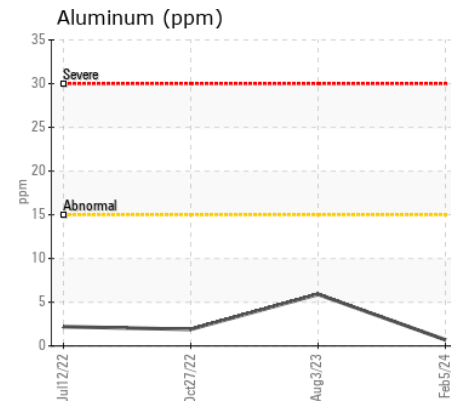
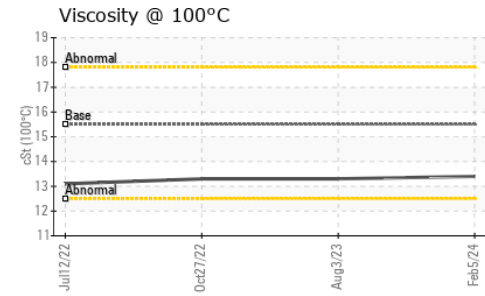
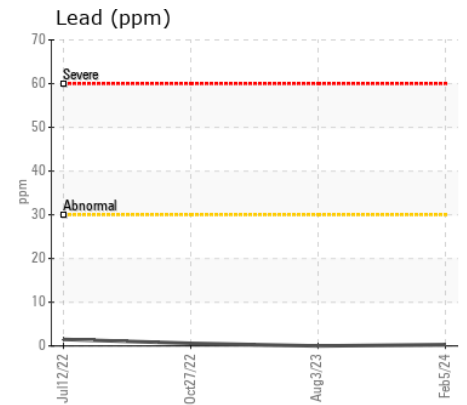
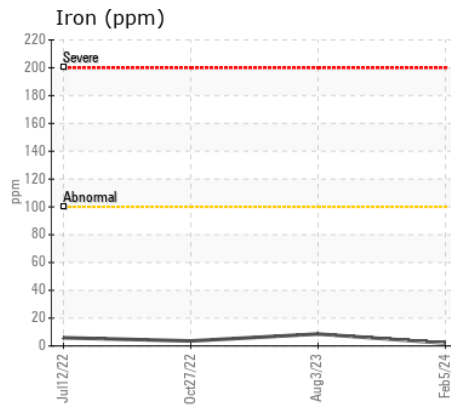
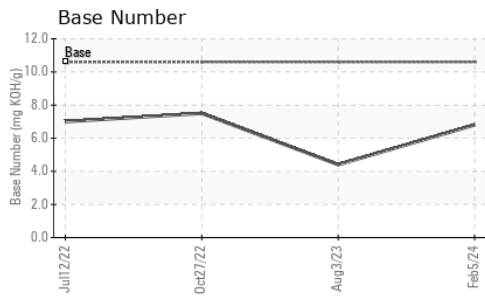
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	6	10	7
Potassium	ppm	ASTM D5185m	>20	0	11	4
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	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.3	9.5	9.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.5	24.0	23.6
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		0	2	<1
Boron	ppm	ASTM D5185m	10	20	6	327
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	10	6	2	86
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	10	31	25	361
Calcium	ppm	ASTM D5185m	2600	2067	2503	1434
Phosphorus	ppm	ASTM D5185m	1050	855	950	1049
Zinc	ppm	ASTM D5185m	1250	1013	1182	1263
Sulfur	ppm	ASTM D5185m	3900	3326	4403	4077
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.2	17.2	18.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.6	6.8	4.4	7.5
Visc @ 100°C	cSt	ASTM D445	15.5	13.4	13.3	13.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0017479 **Received** : 22 Feb 2024
Lab Number : 06097441 **Tested** : 23 Feb 2024
Unique Number : 10890294 **Diagnosed** : 23 Feb 2024 - Wes Davis
Test Package : MOBCE (Additional Tests: TBN)

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Certificate L2367
 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)