



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**LIEBHERR LH30M 117414-1253**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0272898</b>	LH0235762	LHMC160593
Sample Date		Client Info		<b>10 Jan 2024</b>	26 Sep 2023	22 May 2023
Machine Age	hrs	Client Info		<b>8285</b>	0	1750
Oil Age	hrs	Client Info		<b>0</b>	0	500
Filter Age	hrs	Client Info		<b>0</b>	0	500
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>66	<b>8</b>	9	6
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>8	<b>3</b>	<1	2
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>74	<b>2</b>	2	1
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

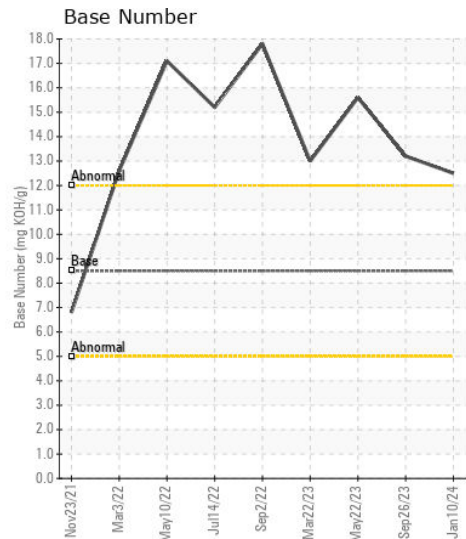
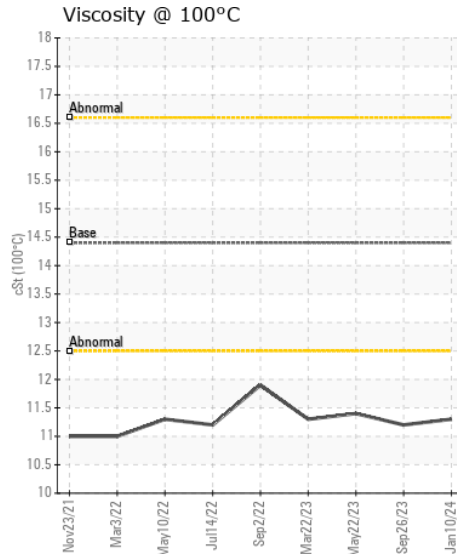
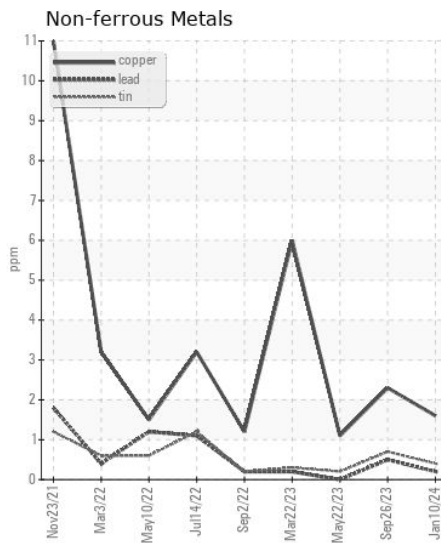
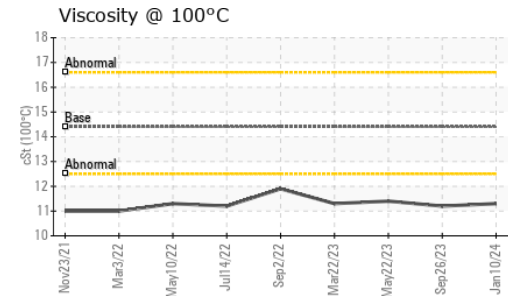
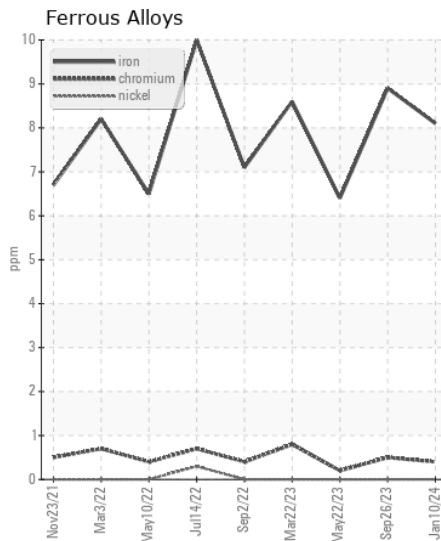
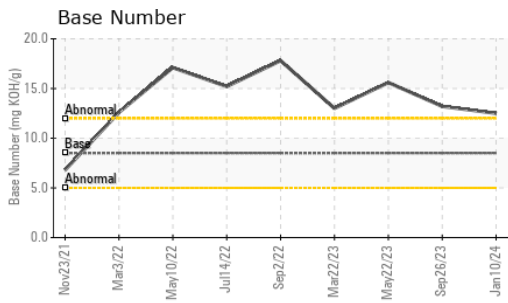
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>15	<b>8</b>	9	10
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	0
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.1</b>	14.1	12.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.5</b>	17.4	14.5
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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	>158	<b>2</b>	1	4
Boron	ppm	ASTM D5185m	250	<b>235</b>	240	304
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>&lt;1</b>	1	2
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>5</b>	27	29
Calcium	ppm	ASTM D5185m	3000	<b>4433</b>	4323	4468
Phosphorus	ppm	ASTM D5185m	1150	<b>1030</b>	1041	1066
Zinc	ppm	ASTM D5185m	1350	<b>1241</b>	1243	1222
Sulfur	ppm	ASTM D5185m	4250	<b>2717</b>	2856	3449
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.5</b>	13.5	10.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>12.5</b>	13.2	15.6
Visc @ 100°C	cSt	ASTM D445	14.4	<b>11.3</b>	11.2	11.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LH0272898 **Received** : 17 Jan 2024  
**Lab Number** : 06062461 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10833843 **Diagnostician** : Sean Felton  
**Test Package** : CONST ( Additional Tests: TBN )

**SPARTAN RECYCLING**  
 3071 HOWARD ST  
 SPARTANBURG, SC  
 US 29303  
 Contact: SERVICE MANAGER

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)

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