



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR LH30M 1200-79283**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 5W30 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0272379</b>	LH0267328	LH0203825
Sample Date		Client Info		<b>10 Jun 2024</b>	14 Mar 2024	22 Dec 2022
Machine Age	hrs	Client Info		<b>21047</b>	20566	17772
Oil Age	hrs	Client Info		<b>0</b>	1000	0
Filter Age	hrs	Client Info		<b>0</b>	1000	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ATTENTION

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>66	<b>14</b>	5	7
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>8	<b>9</b>	7	2
Lead	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>74	<b>6</b>	1	2
Tin	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
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.

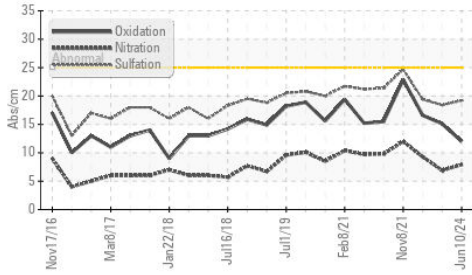
Silicon	ppm	ASTM D5185m	>15	<b>7</b>	7	5
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	2	1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.4</b>	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.9</b>	6.9	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.2</b>	18.4	19.4
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

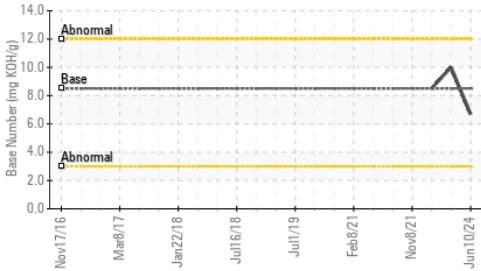
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>3</b>	0	6
Boron	ppm	ASTM D5185m	250	<b>4</b>	6	2
Barium	ppm	ASTM D5185m	10	<b>0</b>	2	0
Molybdenum	ppm	ASTM D5185m	100	<b>17</b>	63	63
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	450	<b>203</b>	969	981
Calcium	ppm	ASTM D5185m	3000	<b>2223</b>	1208	1226
Phosphorus	ppm	ASTM D5185m	1150	<b>1004</b>	1031	1047
Zinc	ppm	ASTM D5185m	1350	<b>1165</b>	1286	1381
Sulfur	ppm	ASTM D5185m	4250	<b>4158</b>	3539	3530
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.0</b>	15.1	16.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.7</b>	10.0	8.5
Visc @ 100°C	cSt	ASTM D445	10.9	<b>13.3</b>	14.0	13.7

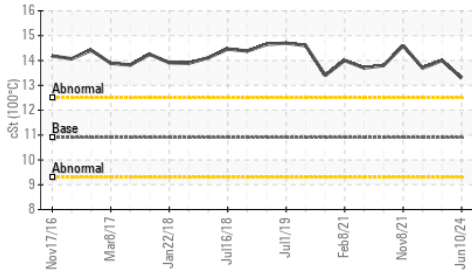
**FT-IR (Direct Trend)**



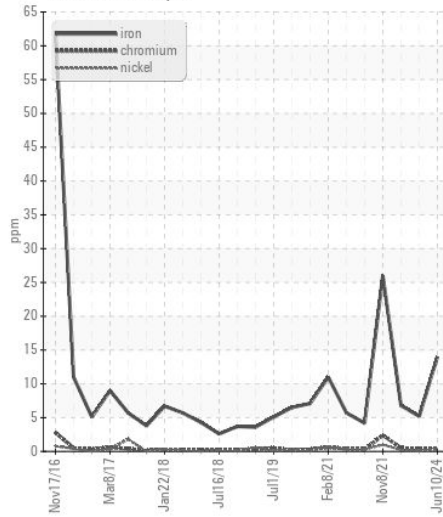
**Base Number**



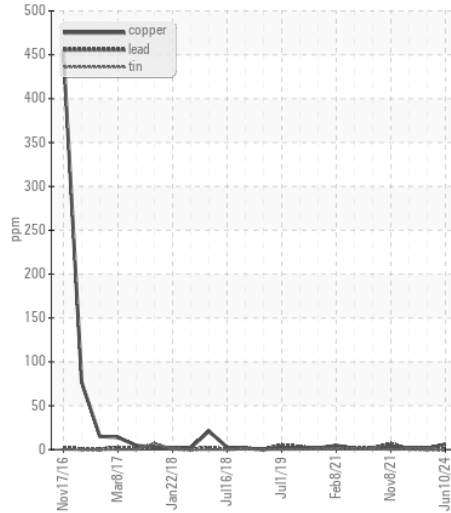
**Viscosity @ 100°C**



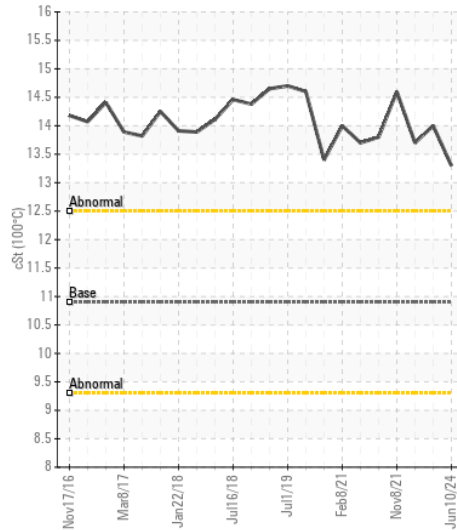
**Ferrous Alloys**



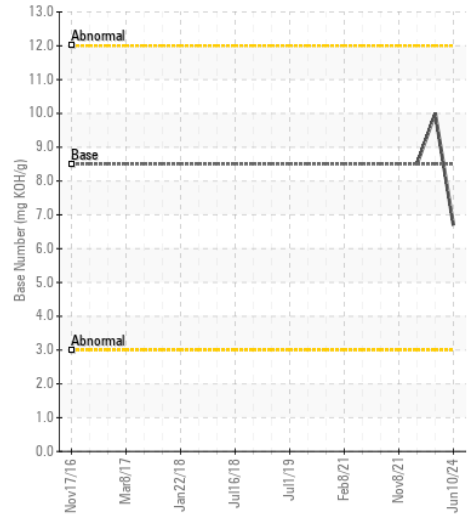
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LH0272379 **Received** : 17 Jun 2024  
**Lab Number** : 06212857 **Tested** : 19 Jun 2024  
**Unique Number** : 11085721 **Diagnosed** : 19 Jun 2024 - Angela Borella  
**Test Package** : CONST ( Additional Tests: TBN )

**GREEN METALS INC**  
 234 E 350 S  
 PRINCETON, IN  
 US 47670  
 Contact: Keith May  
 kmay@gmiky.com  
 T: (812)270-3865  
 F: (812)386-3694

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)