



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR LH50M 137429**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 10W30 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0284881</b>	LH0247034	LH0251553
Sample Date		Client Info		<b>01 Feb 2024</b>	11 Jun 2023	11 Apr 2023
Machine Age	hrs	Client Info		<b>8133</b>	5689	5027
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>66	<b>3</b>	4	3
Chromium	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>8	<b>1</b>	1	1
Lead	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>74	<b>2</b>	2	2
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0

### CONTAMINATION

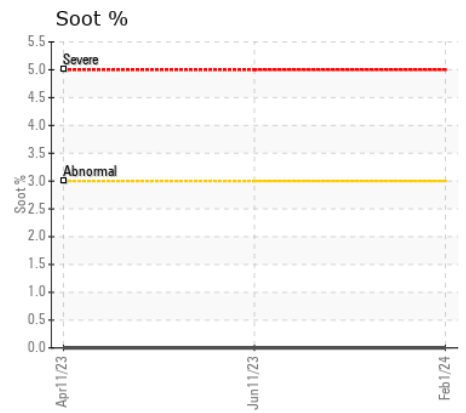
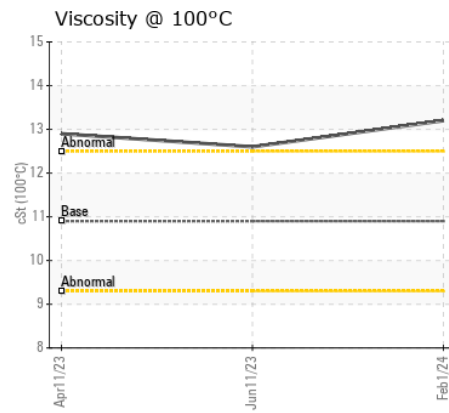
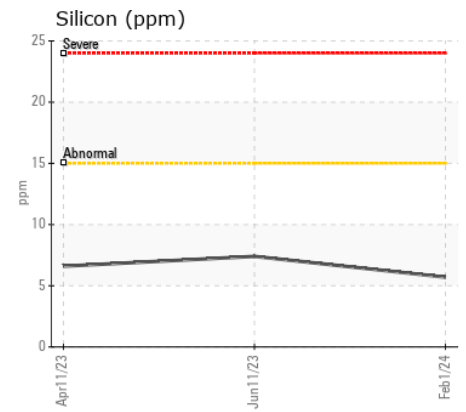
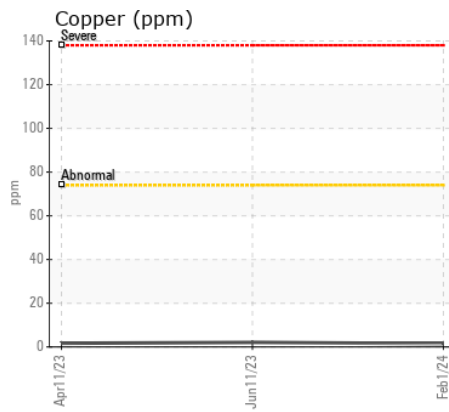
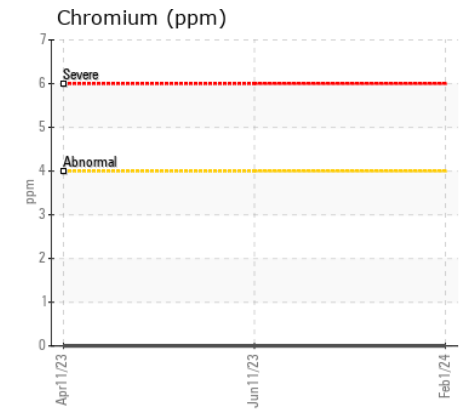
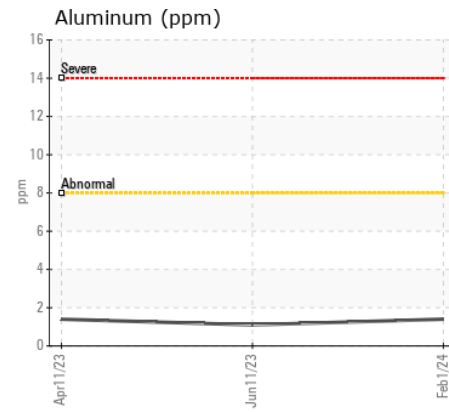
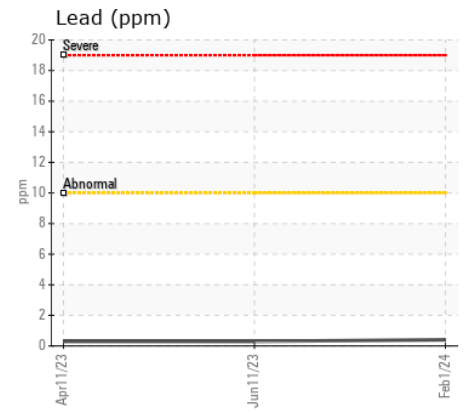
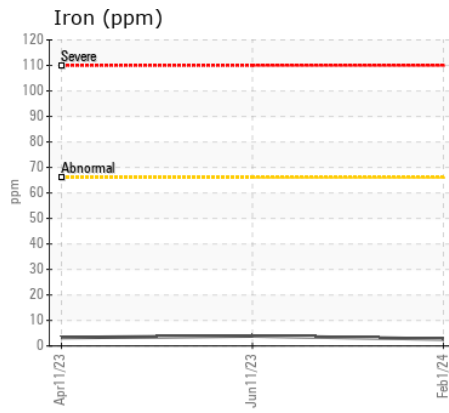
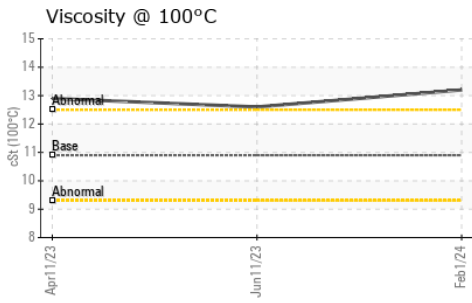
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>15	<b>6</b>	7	7
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	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</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.7</b>	8.9	8.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>19.1</b>	20.6	19.2
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>1</b>	2	1
Boron	ppm	ASTM D5185(m)	250	<b>2</b>	2	3
Barium	ppm	ASTM D5185(m)	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	100	<b>55</b>	59	60
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	<b>927</b>	977	965
Calcium	ppm	ASTM D5185(m)	3000	<b>1094</b>	1128	1117
Phosphorus	ppm	ASTM D5185(m)	1150	<b>993</b>	1097	1075
Zinc	ppm	ASTM D5185(m)	1350	<b>1158</b>	1222	1206
Sulfur	ppm	ASTM D5185(m)	4250	<b>2644</b>	2591	2615
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>16.9</b>	19.2	17.2
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	<b>13.2</b>	12.6	12.9



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0284881  
**Lab Number** : 02616187  
**Unique Number** : 5733297  
**Test Package** : MOB 1  
**Received** : 16 Feb 2024  
**Tested** : 16 Feb 2024  
**Diagnosed** : 16 Feb 2024 - Kevin Marson

**COMBINED METAL INDUSTRIES-PUBLIC YARD**  
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To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.