



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id  
**LIEBHERR L586 068511-1761**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0282263</b>	LH0274786	LH0261758
Sample Date		Client Info		<b>21 Jan 2024</b>	29 Aug 2023	13 Jul 2023
Machine Age	hrs	Client Info		<b>2595</b>	1877	1492
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>N/A</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)	>100	<b>4</b>	3	4
Chromium	ppm	ASTM D5185(m)	>5	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>15	<b>1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>30	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>125	<b>3</b>	2	5
Tin	ppm	ASTM D5185(m)	>5	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---

### CONTAMINATION

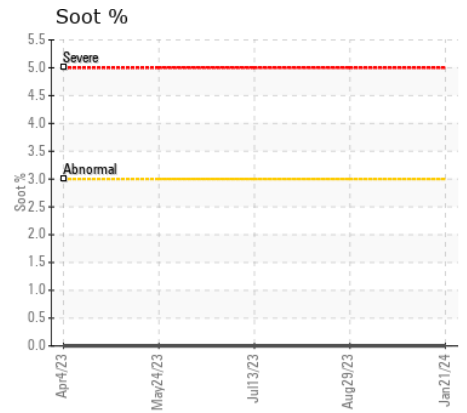
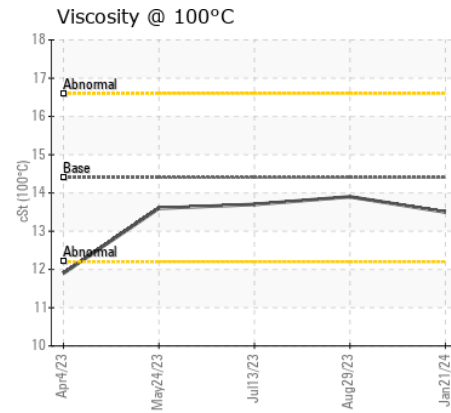
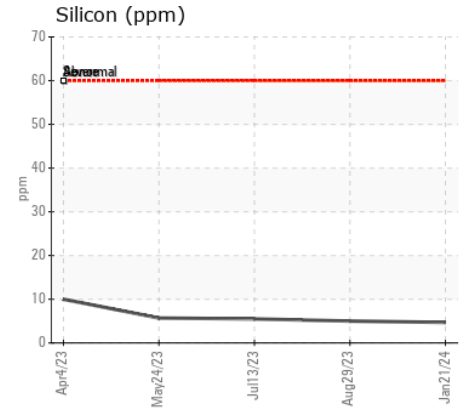
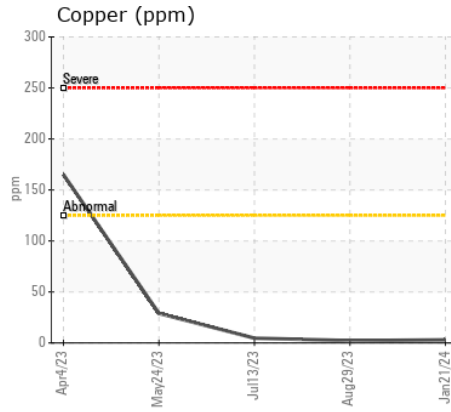
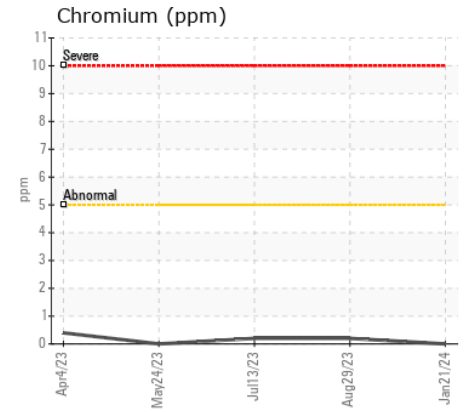
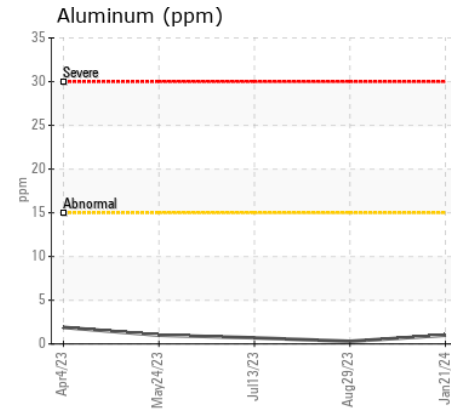
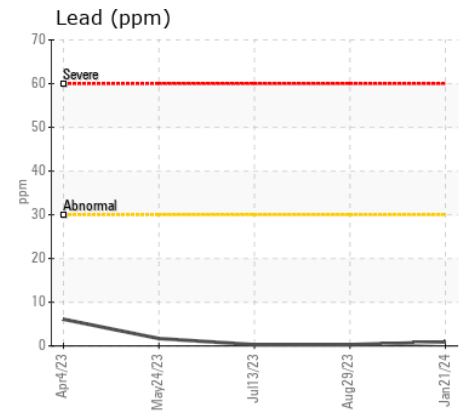
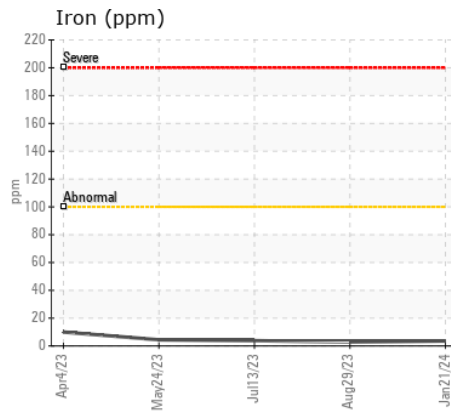
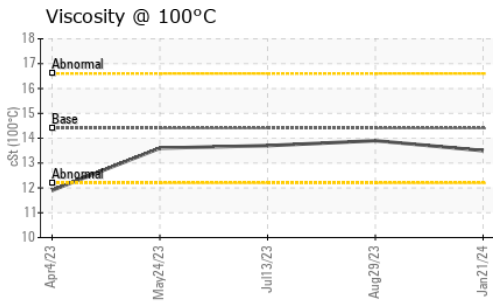
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	<b>5</b>	5	6
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	2
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>6.8</b>	6.0	5.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>19.5</b>	19.9	18.7
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>VLITE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

### FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>216	<b>1</b>	1	1
Boron	ppm	ASTM D5185(m)	250	<b>4</b>	1	2
Barium	ppm	ASTM D5185(m)	10	<b>0</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)	100	<b>58</b>	57	57
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	<b>945</b>	972	972
Calcium	ppm	ASTM D5185(m)	3000	<b>1032</b>	1051	1054
Phosphorus	ppm	ASTM D5185(m)	1150	<b>997</b>	1035	1046
Zinc	ppm	ASTM D5185(m)	1350	<b>1148</b>	1178	1187
Sulfur	ppm	ASTM D5185(m)	4250	<b>2893</b>	2586	2575
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>15.9</b>	14.6	14.3
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	<b>13.5</b>	13.9	13.7



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0282263 **Received** : 22 Jan 2024  
**Lab Number** : 02610245 **Diagnosed** : 23 Jan 2024  
**Unique Number** : 5711331 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: Visual )

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.

**MILLER PAVING LTD.**  
 P.O BOX 4080, 505 MILLER AVE.  
 MARKHAM, ON  
 CA L6G 1B2  
 Contact: Rob Graham  
 rob.graham@millergroup.ca  
 T: (905)475-6660  
 F: (905)475-1086