



# LIEBHERR

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id  
**LIEBHERR L556 046708-1332**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 5W40 (7 GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0268186</b>	LH0243722	LH0245005
Sample Date		Client Info		<b>09 Feb 2024</b>	29 Sep 2023	09 Feb 2023
Machine Age	hrs	Client Info		<b>10214</b>	9547	9080
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>Changed</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ATTENTION

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>6</b>	3	7
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>87</b>	48	6
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	<1	1
Lead	ppm	ASTM D5185m	>30	<b>0</b>	0	3
Copper	ppm	ASTM D5185m	>125	<b>2</b>	3	5
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>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

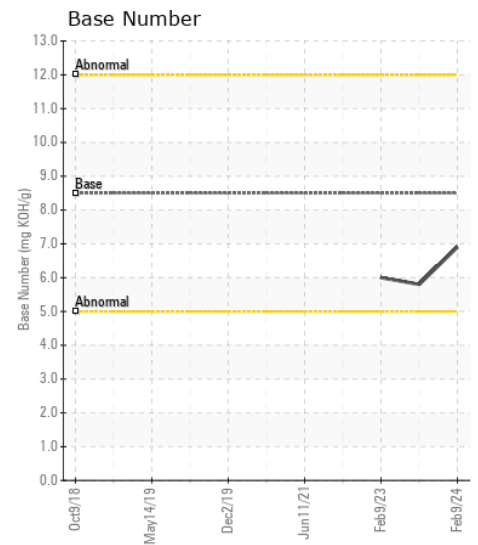
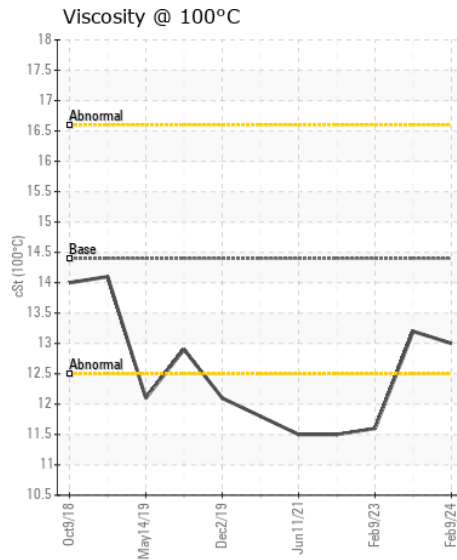
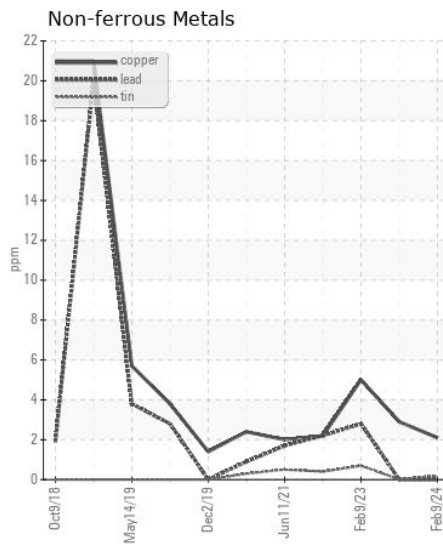
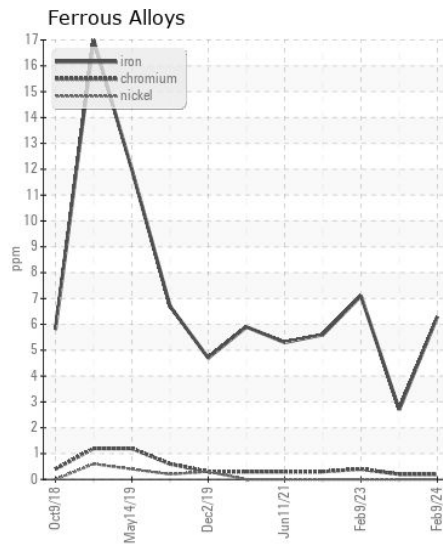
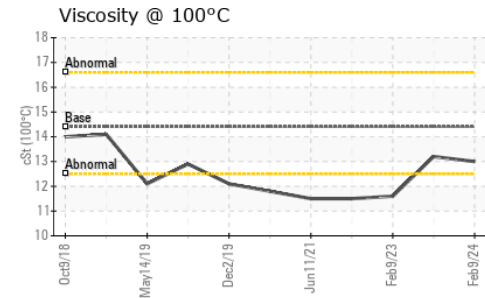
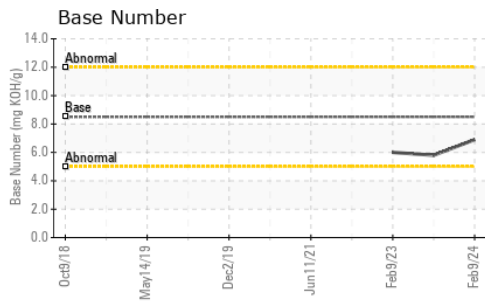
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	<b>12</b>	8	10
Potassium	ppm	ASTM D5185m	>20	<b>8</b>	1	4
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	1.2
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>9.6</b>	8.9	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.6</b>	19.1	22.7
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	>44	<b>0</b>	1	3
Boron	ppm	ASTM D5185m	250	<b>77</b>	49	39
Barium	ppm	ASTM D5185m	10	<b>12</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>8</b>	21	2
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>692</b>	837	707
Calcium	ppm	ASTM D5185m	3000	<b>1284</b>	1246	1488
Phosphorus	ppm	ASTM D5185m	1150	<b>1054</b>	986	764
Zinc	ppm	ASTM D5185m	1350	<b>1143</b>	1219	939
Sulfur	ppm	ASTM D5185m	4250	<b>4324</b>	3496	3777
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.3</b>	14.9	19.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>6.9</b>	5.8	6.0
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.0</b>	13.2	▲ 11.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LH0268186  
**Lab Number** : 06088605  
**Unique Number** : 10876050  
**Test Package** : CONST ( Additional Tests: TBN )

**AMERICAN STATE EQUIPMENT CO.**  
 2055 SOUTH 108TH STREET  
 MILWAUKEE, WI  
 US 53227  
 Contact: RAY SCHMIDT  
 RSCHMIDT@AMSTATE.COM  
 T: (414)234-0854  
 F: (414)541-1892

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)