



# LIEBHERR

## OIL ANALYSIS REPORT

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

Machine Id  
**SENNEBOGEN 830E MS17**  
Component  
**Front Right Wheel Hub**  
Fluid  
**GEAR OIL SAE 80W90 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LHMC79951</b>	LHMC103196	LHMC102515
Sample Date		Client Info		<b>23 Aug 2023</b>	05 May 2023	20 Feb 2023
Machine Age	hrs	Client Info		<b>6878</b>	6853	5898
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>Not Changd</b>	N/A	Not Changd
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 D5185m	>500	<b>27</b>	68	22
Chromium	ppm	ASTM D5185m	>8	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Lead	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>50	<b>3</b>	6	3
Tin	ppm	ASTM D5185m		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	MODER	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

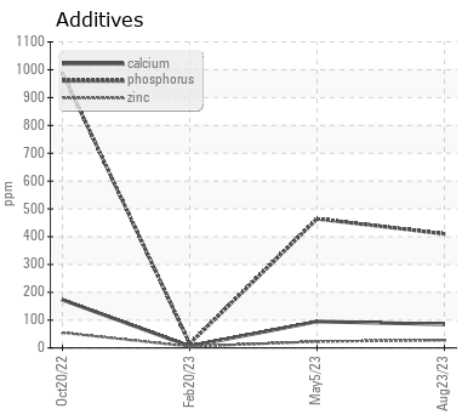
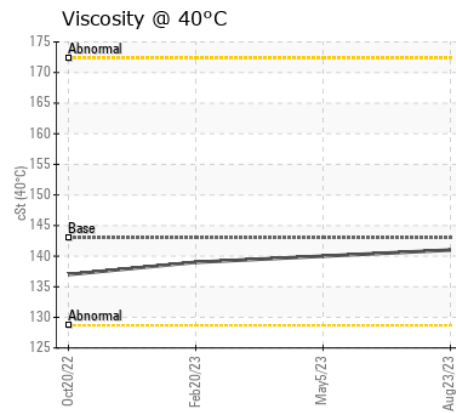
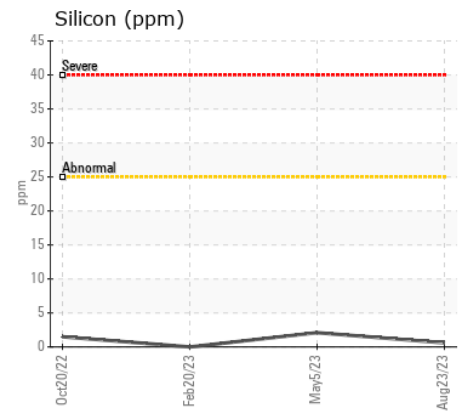
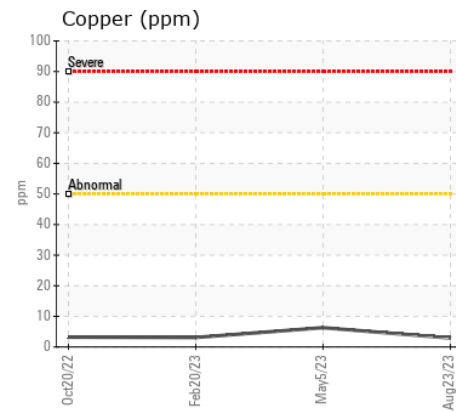
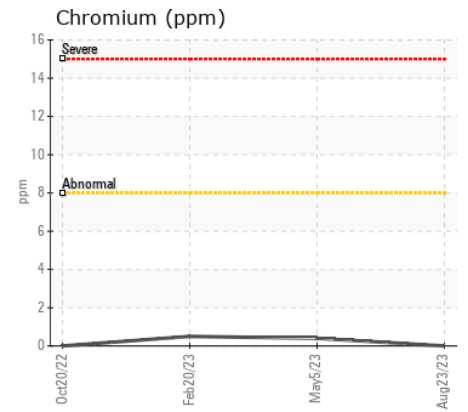
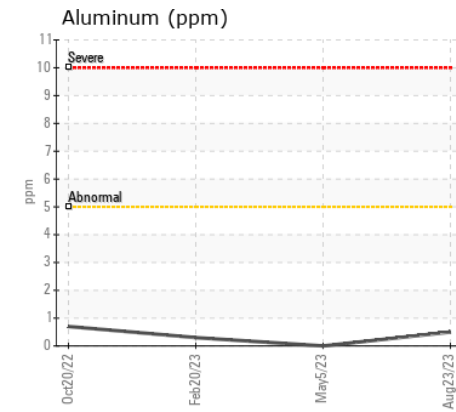
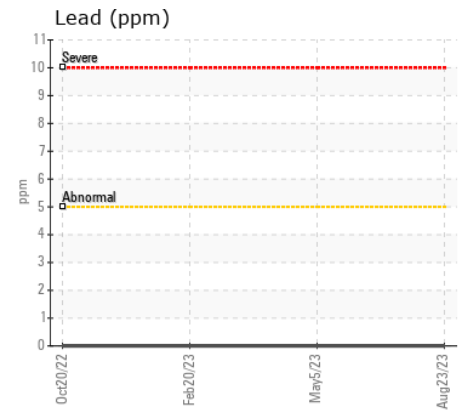
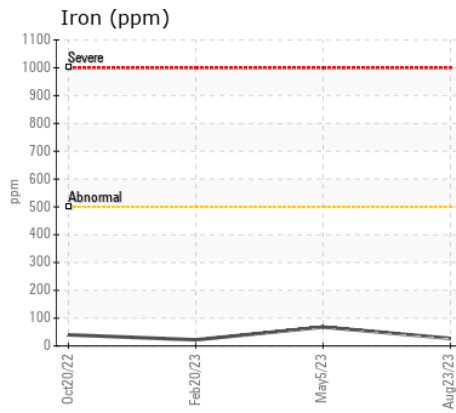
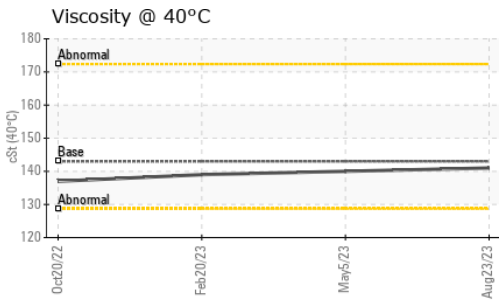
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>&lt;1</b>	2	0
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	11
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Silt	scalar	*Visual	NONE	<b>MODER</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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>170	<b>&lt;1</b>	2	8
Boron	ppm	ASTM D5185m	400	<b>61</b>	73	<1
Barium	ppm	ASTM D5185m	200	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	12	<b>0</b>	<1	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	12	<b>1</b>	1	<1
Calcium	ppm	ASTM D5185m	150	<b>85</b>	95	6
Phosphorus	ppm	ASTM D5185m	1650	<b>410</b>	464	15
Zinc	ppm	ASTM D5185m	125	<b>28</b>	23	5
Sulfur	ppm	ASTM D5185m	22500	<b>22810</b>	23267	4243
Visc @ 40°C	cSt	ASTM D445	143	<b>141</b>	140	139



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LHMC79951 **Received** : 16 Jan 2024  
**Lab Number** : 06062225 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10833607 **Diagnostician** : Wes Davis  
**Test Package** : MOB 1

**OSCAR WINSKI CO. INC**  
 2407 N. 9TH STREET  
 LAFAYETTE, IN  
 US 47904  
 Contact: JAYSON FRAZIER  
 frazierj@oscarwinski.com  
 T: (765)376-1230  
 F: x:

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)