



# OIL ANALYSIS REPORT

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



Area

## LIEBHERR

Machine Id

### 062713-1419 LIEBHERR A934CHD 062713-1419

Component

### Rear Left Wheel Hub

Fluid

### GEAR OIL SAE 90 (--- GAL)

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DJJ0023806</b>	DJJ0000904	DJJ0000830
Sample Date		Client Info		<b>13 Jun 2024</b>	09 Feb 2021	19 Nov 2019
Machine Age	hrs	Client Info		<b>12992</b>	10623	9434
Oil Age	hrs	Client Info		<b>0</b>	0	500
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>450	<b>52</b>	173	125
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	1	<1
Lead	ppm	ASTM D5185m	>4	<b>0</b>	<1	1
Copper	ppm	ASTM D5185m	>75	<b>11</b>	17	14
Tin	ppm	ASTM D5185m		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

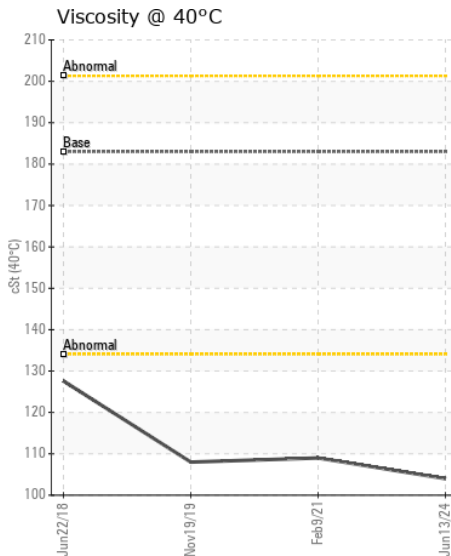
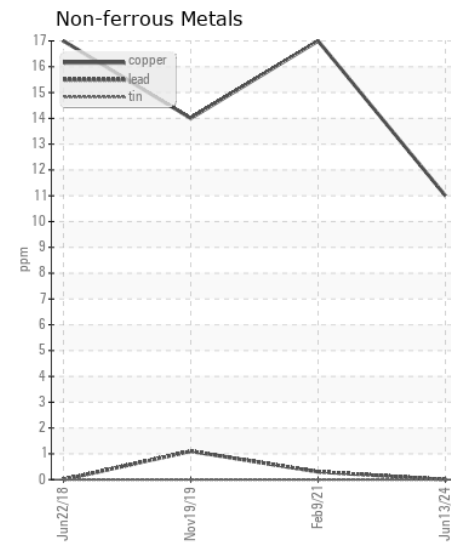
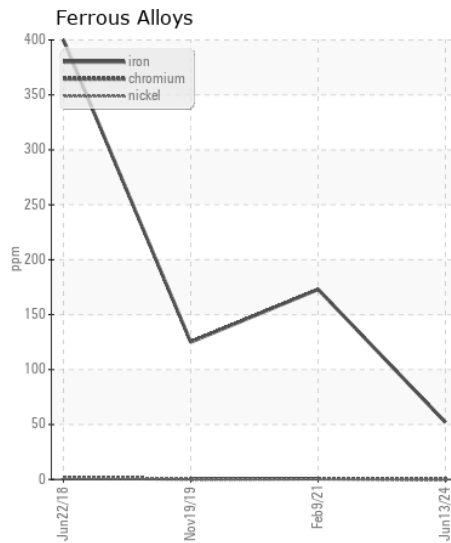
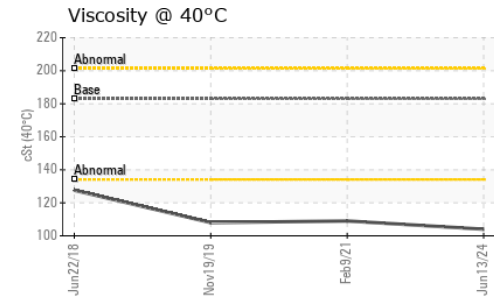
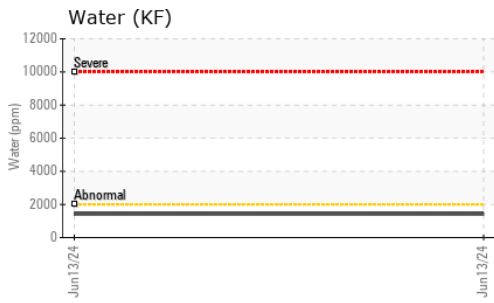
There is no indication of any contamination in the component.

Silicon	ppm	ASTM D5185m	>60	<b>4</b>	3	2
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	<1	1
Water	%	ASTM D6304	>0.2	<b>0.142</b>	---	---
ppm Water	ppm	ASTM D6304	>2000	<b>1420</b>	---	---
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>0.2%</b>	NEG	NEG

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	2
Boron	ppm	ASTM D5185m	400	<b>18</b>	16	12
Barium	ppm	ASTM D5185m	200	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	12	<b>6</b>	1	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	2	2
Magnesium	ppm	ASTM D5185m	12	<b>9</b>	6	1
Calcium	ppm	ASTM D5185m	150	<b>166</b>	24	18
Phosphorus	ppm	ASTM D5185m	1650	<b>429</b>	548	326
Zinc	ppm	ASTM D5185m	125	<b>134</b>	26	19
Sulfur	ppm	ASTM D5185m	22500	<b>14739</b>	12197	10410
Visc @ 40°C	cSt	ASTM D445	183	<b>104</b>	109	108



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0023806 **Received** : 18 Jun 2024  
**Lab Number** : 06213900 **Tested** : 20 Jun 2024  
**Unique Number** : 11086764 **Diagnosed** : 20 Jun 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: KF )

**METAL RECYCLING SERVICES - GASTONIA**  
 5401 S YORK HWY  
 GASTONIA, NC  
 US 28052  
 Contact: RYAN BOWDEN

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)

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