



# OIL ANALYSIS REPORT

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



Area  
**AMR-Topeka**  
Machine Id  
**112146 LIEBHERR A924C 063247-1049**  
Component  
**Front Left Wheel Hub**  
Fluid  
**LIEBHERR GEAR BASIC 90 LS (1 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DJJ0023251</b>	DJJ0019411	DJJ0017157
Sample Date		Client Info		<b>02 Apr 2024</b>	20 Jun 2023	20 Oct 2022
Machine Age	hrs	Client Info		<b>8606</b>	8076	7833
Oil Age	hrs	Client Info		<b>500</b>	500	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 D5185m	>1000	<b>99</b>	104	27
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>2</b>	0	<1
Lead	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>40	<b>1</b>	2	15
Tin	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

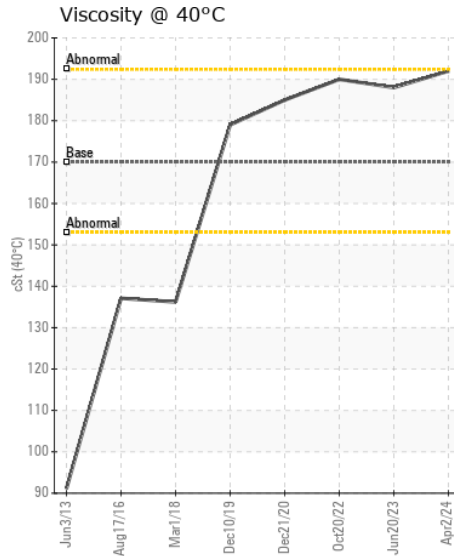
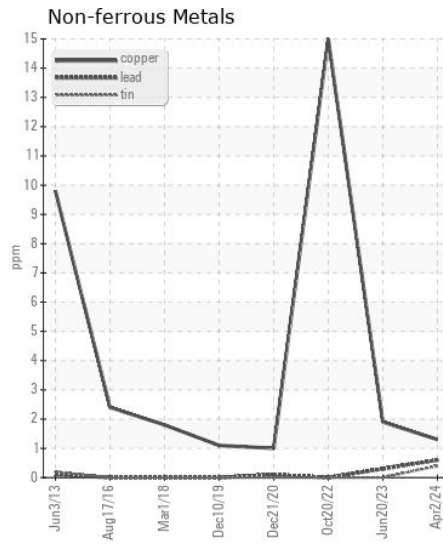
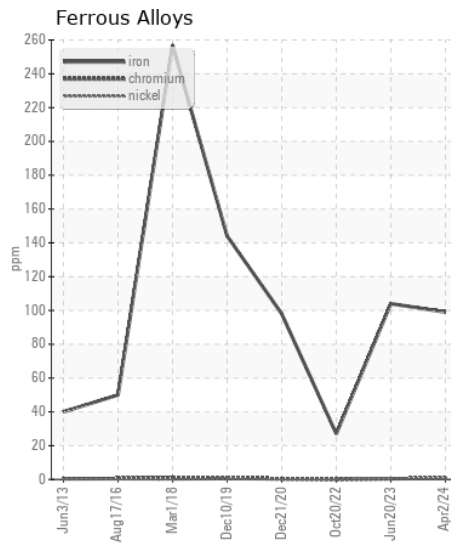
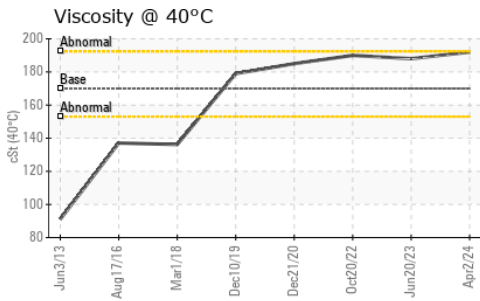
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	<b>4</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	2	<1
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>7</b>	10	3
Boron	ppm	ASTM D5185m	0	<b>22</b>	38	19
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	0
Manganese	ppm	ASTM D5185m	0	<b>1</b>	1	<1
Magnesium	ppm	ASTM D5185m	<1	<b>2</b>	2	<1
Calcium	ppm	ASTM D5185m	<1	<b>57</b>	100	6
Phosphorus	ppm	ASTM D5185m	2143	<b>2480</b>	2174	2066
Zinc	ppm	ASTM D5185m	<1	<b>67</b>	93	11
Sulfur	ppm	ASTM D5185m	23468	<b>31856</b>	28176	22611
Visc @ 40°C	cSt	ASTM D445	170	<b>192</b>	188	190



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0023251  
**Lab Number** : 06147800  
**Unique Number** : 10977878  
**Test Package** : CONST

**Received** : 12 Apr 2024  
**Tested** : 15 Apr 2024  
**Diagnosed** : 15 Apr 2024 - Wes Davis

**ADVANTAGE METALS RECYCLING - TOPEKA**  
 1628 NW GORDON ST  
 TOPEKA, KS  
 US 66608

Contact: SETH WATSON  
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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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