



# OIL ANALYSIS REPORT

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

Area  
**AMR-Cheyenne**  
Machine Id  
**511144 LIEBHERR LH60 118832**  
Component  
**Swing Drive**  
Fluid  
**LIEBHERR GEAR BASIC 90 LS (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DJJ0024712</b>	DJJ0020062	DJJ0017316
Sample Date		Client Info		<b>01 Jul 2024</b>	10 Apr 2024	19 Mar 2024
Machine Age	hrs	Client Info		<b>7339</b>	6873	6770
Oil Age	hrs	Client Info		<b>0</b>	0	250
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>400	<b>122</b>	337	302
Chromium	ppm	ASTM D5185m	>10	<b>1</b>	2	4
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>25	<b>0</b>	<1	2
Lead	ppm	ASTM D5185m	>50	<b>0</b>	2	<1
Copper	ppm	ASTM D5185m	>200	<b>14</b>	35	34
Tin	ppm	ASTM D5185m	>10	<b>0</b>	2	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

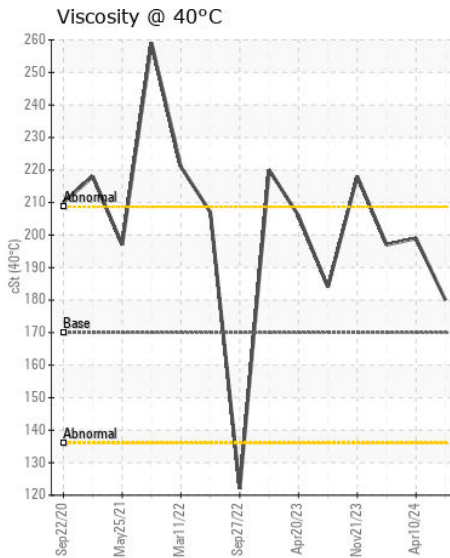
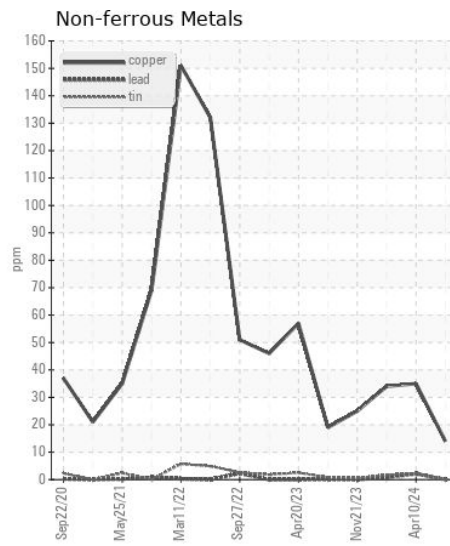
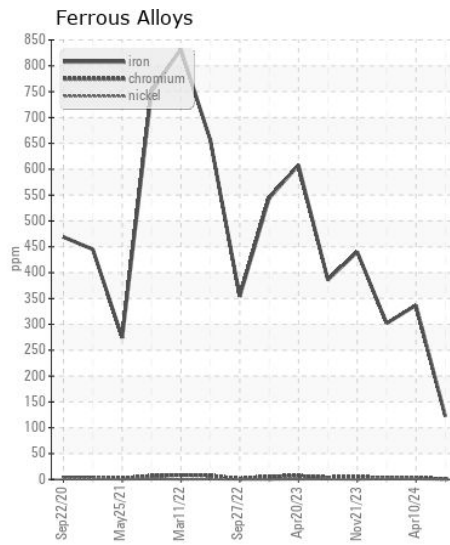
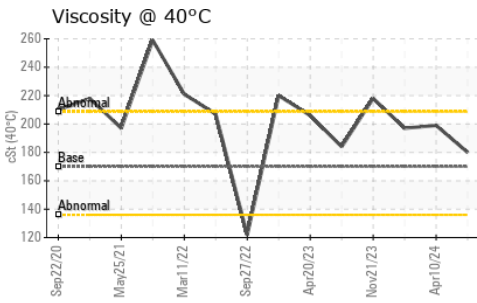
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	<b>&lt;1</b>	2	2
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	<1	2
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	▲ MODER
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	0.2%

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		<b>2</b>	3	0
Boron	ppm	ASTM D5185m	0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	0	<b>0</b>	3	<1
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	<1	<1
Manganese	ppm	ASTM D5185m	0	<b>1</b>	2	3
Magnesium	ppm	ASTM D5185m	<1	<b>&lt;1</b>	8	<1
Calcium	ppm	ASTM D5185m	<1	<b>16</b>	22	11
Phosphorus	ppm	ASTM D5185m	2143	<b>2309</b>	2351	2198
Zinc	ppm	ASTM D5185m	<1	<b>7</b>	15	9
Sulfur	ppm	ASTM D5185m	23468	<b>32488</b>	52416	28635
Visc @ 40°C	cSt	ASTM D445	170	<b>180</b>	199	197



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0024712  
**Lab Number** : 06230948  
**Unique Number** : 11114441  
**Test Package** : CONST

**Received** : 08 Jul 2024  
**Tested** : 10 Jul 2024  
**Diagnosed** : 10 Jul 2024 - Jonathan Hester

**ADVANTAGE METALS RECYCLING - CHEYENNE**  
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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)