



# OIL ANALYSIS REPORT

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

Area  
**AMR-Manchester**  
 Machine Id  
**146889 LIEBHERR 146889**  
 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>DJJ0013962</b>	DJJ0003538	---
Sample Date		Client Info		<b>27 Mar 2024</b>	08 Nov 2023	---
Machine Age	hrs	Client Info		<b>1079</b>	518	---
Oil Age	hrs	Client Info		<b>0</b>	518	---
Filter Age	hrs	Client Info		<b>0</b>	0	---
Oil Changed		Client Info		<b>Changed</b>	Not Changd	---
Filter Changed		Client Info		<b>Changed</b>	N/A	---
Sample Status				<b>NORMAL</b>	NORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>400	<b>218</b>	157	---
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	---
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0	---
Titanium	ppm	ASTM D5185m		<b>0</b>	0	---
Silver	ppm	ASTM D5185m		<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>25	<b>0</b>	3	---
Lead	ppm	ASTM D5185m	>50	<b>0</b>	0	---
Copper	ppm	ASTM D5185m	>200	<b>32</b>	19	---
Tin	ppm	ASTM D5185m	>10	<b>1</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

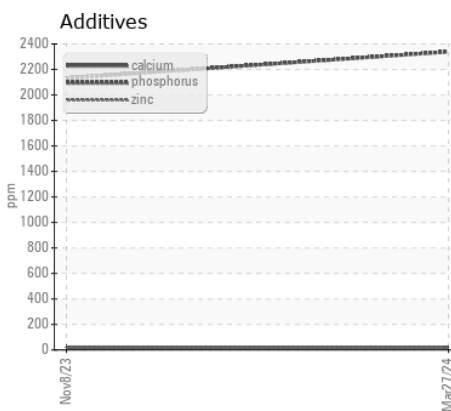
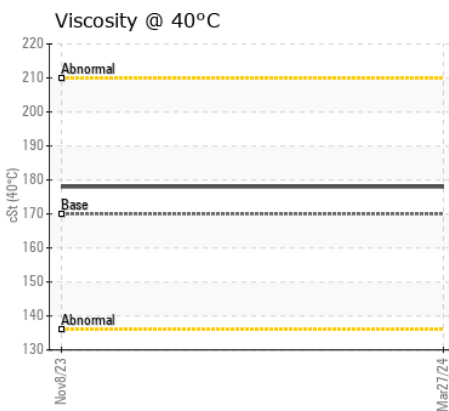
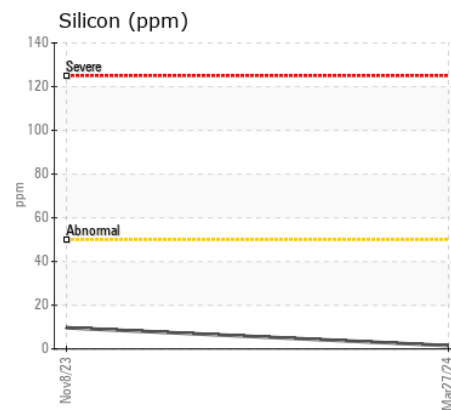
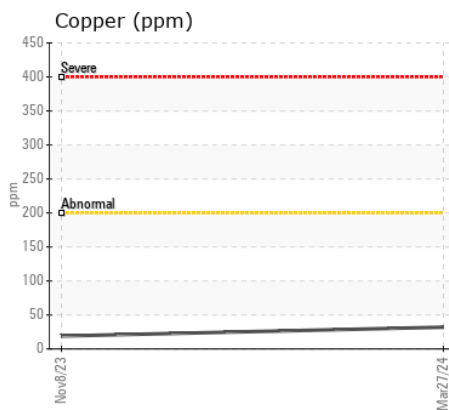
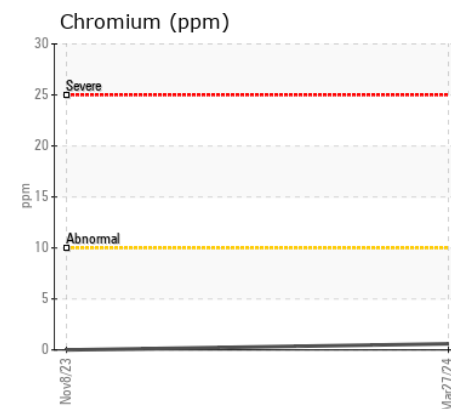
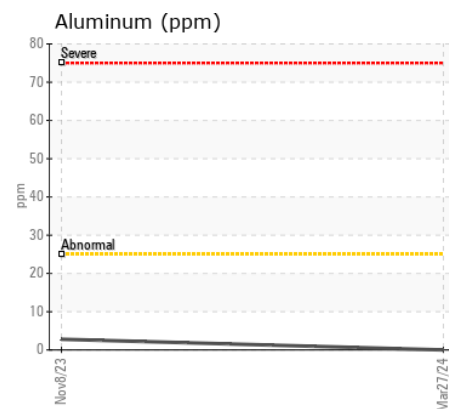
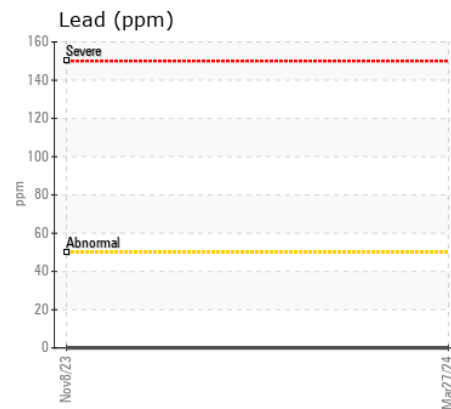
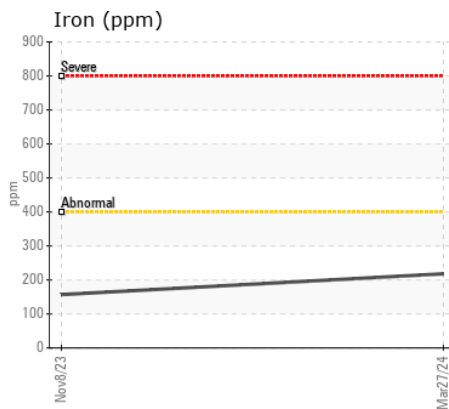
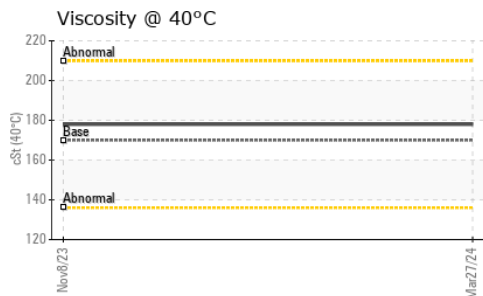
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	<b>2</b>	10	---
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	---

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		<b>4</b>	3	---
Boron	ppm	ASTM D5185m	0	<b>3</b>	4	---
Barium	ppm	ASTM D5185m	0	<b>10</b>	8	---
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0	---
Manganese	ppm	ASTM D5185m	0	<b>3</b>	2	---
Magnesium	ppm	ASTM D5185m	<1	<b>0</b>	<1	---
Calcium	ppm	ASTM D5185m	<1	<b>20</b>	21	---
Phosphorus	ppm	ASTM D5185m	2143	<b>2339</b>	2132	---
Zinc	ppm	ASTM D5185m	<1	<b>16</b>	22	---
Sulfur	ppm	ASTM D5185m	23468	<b>32037</b>	26300	---
Visc @ 40°C	cSt	ASTM D445	170	<b>178</b>	178	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0013962  
**Lab Number** : 06147659  
**Unique Number** : 10977737  
**Test Package** : MOBCE

**Received** : 12 Apr 2024  
**Tested** : 15 Apr 2024  
**Diagnosed** : 16 Apr 2024 - Jonathan Hester

**ADVANTAGE METALS RECYCLING - MANCHESTER**  
 3005 MANCHESTER TRAFFICWAY  
 KANSAS CITY, MO  
 US 64129

Contact: STEVE BROWN  
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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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