



# OIL ANALYSIS REPORT

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



Area  
**TMR-Sunshine**  
Machine Id  
**21584 LIEBHERR R934 925-14645**  
Component  
**Hydraulic System**  
Fluid  
**AW HYDRAULIC OIL ISO 68 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DJJ0021121</b>	DJJ0021132	DJJ0007557
Sample Date		Client Info		<b>06 Feb 2024</b>	17 Oct 2023	03 Dec 2021
Machine Age	hrs	Client Info		<b>28499</b>	27965	24216
Oil Age	hrs	Client Info		<b>0</b>	2000	0
Filter Age	hrs	Client Info		<b>0</b>	1000	0
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	N/A
Filter Changed		Client Info		<b>N/A</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	ABNORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>10</b>	11	4
Chromium	ppm	ASTM D5185m	>15	<b>3</b>	2	1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185m	>5	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>15	<b>9</b>	8	5
Tin	ppm	ASTM D5185m	>5	<b>0</b>	<1	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

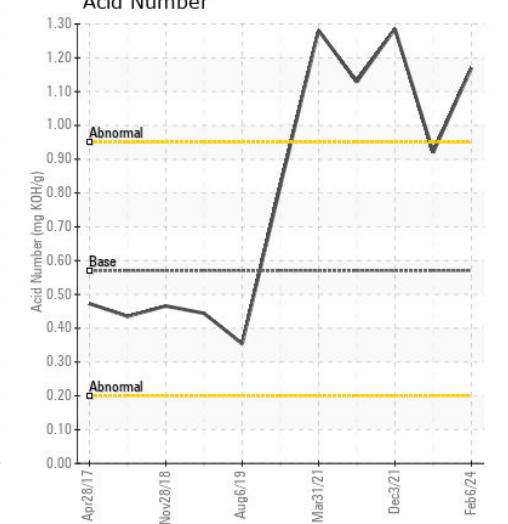
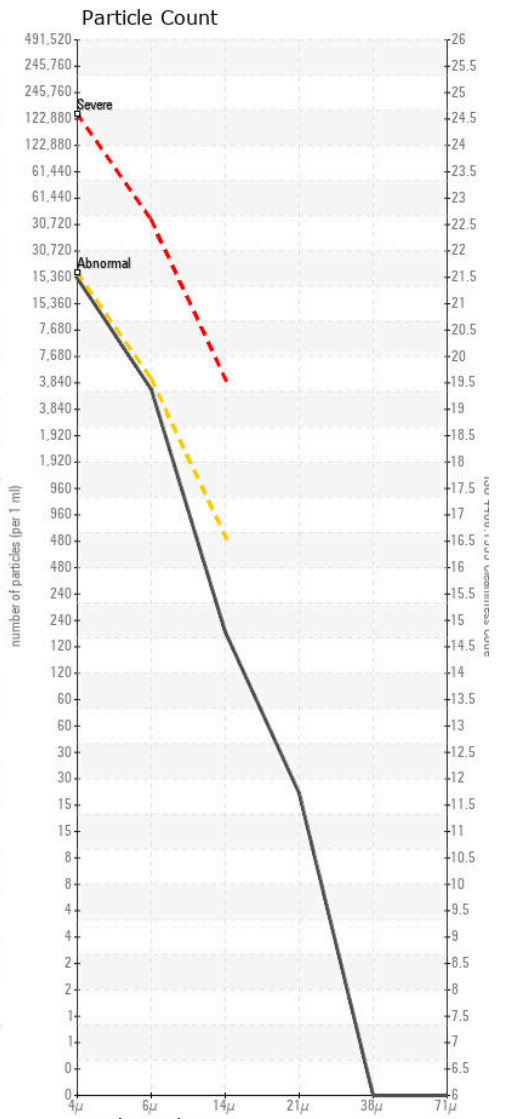
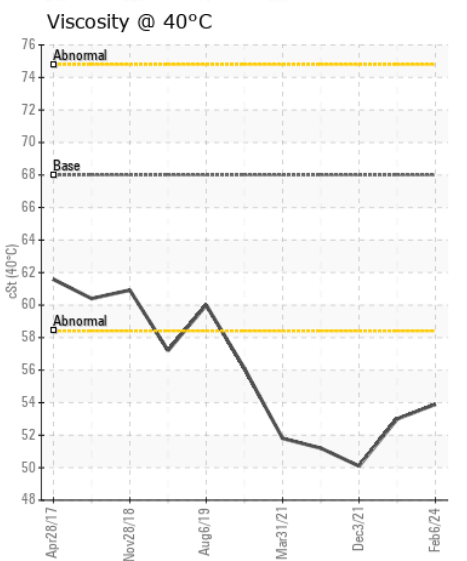
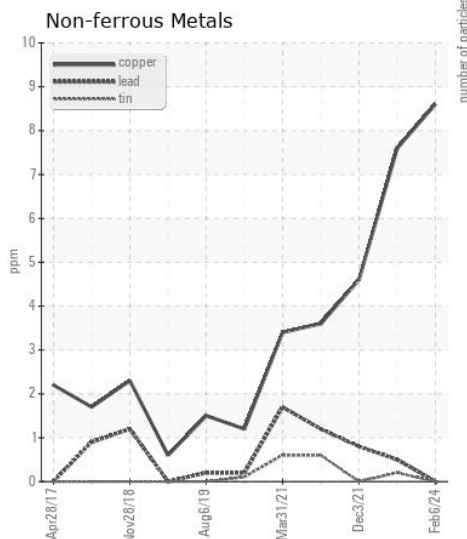
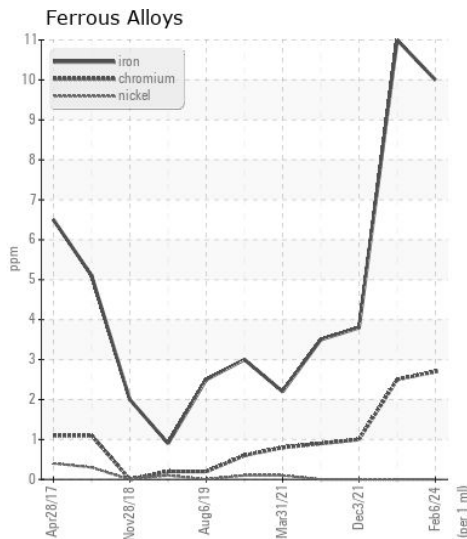
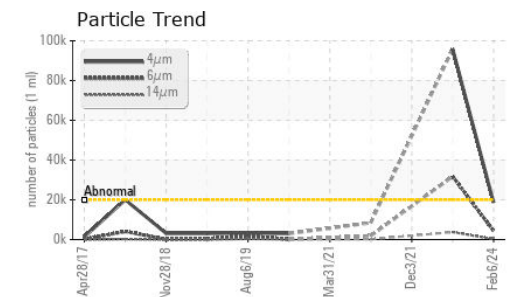
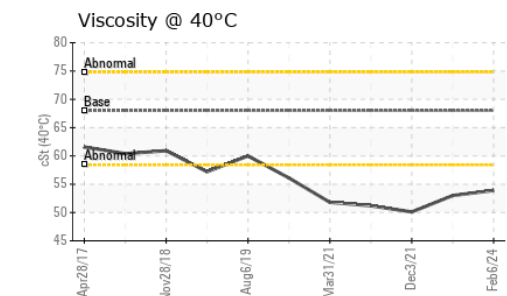
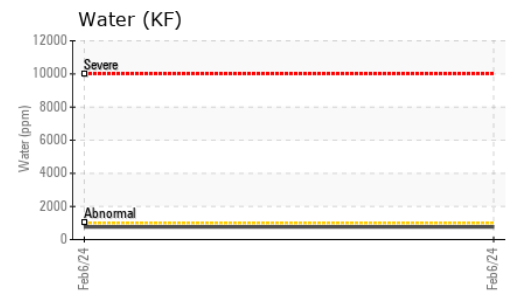
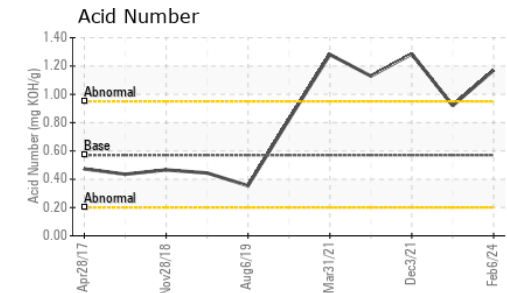
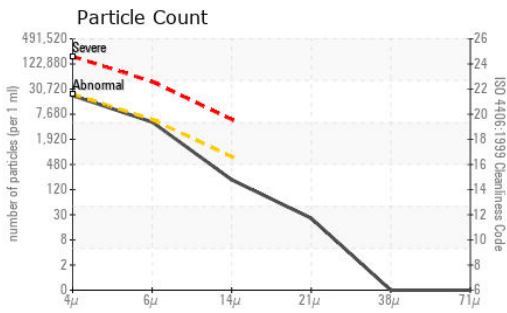
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	6	4
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	0
Water	%	ASTM D6304	>0.1	<b>0.076</b>	---	---
ppm Water	ppm	ASTM D6304	>1000	<b>760</b>	---	---
Particles >4µm		ASTM D7647	>20000	<b>18627</b>	▲ 95847	---
Particles >6µm		ASTM D7647	>5000	<b>4353</b>	▲ 31738	---
Particles >14µm		ASTM D7647	>640	<b>182</b>	▲ 3733	---
Particles >21µm		ASTM D7647	>160	<b>22</b>	▲ 983	---
Particles >38µm		ASTM D7647	>40	<b>0</b>	26	---
Particles >71µm		ASTM D7647	>10	<b>0</b>	1	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>21/19/15</b>	▲ 24/22/19	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</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	>0.1	<b>0.2%</b>	NEG	NEG

## FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	1	1
Boron	ppm	ASTM D5185m	5	<b>7</b>	8	5
Barium	ppm	ASTM D5185m	5	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m	5	<b>3</b>	3	2
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	25	<b>28</b>	30	16
Calcium	ppm	ASTM D5185m	200	<b>1919</b>	2134	2675
Phosphorus	ppm	ASTM D5185m	300	<b>854</b>	859	925
Zinc	ppm	ASTM D5185m	370	<b>1003</b>	1074	1031
Sulfur	ppm	ASTM D5185m	2500	<b>2761</b>	2939	2616
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	<b>1.17</b>	0.92	1.285
Visc @ 40°C	cSt	ASTM D445	68	<b>53.9</b>	53.0	50.1



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0021121 **Received** : 13 Feb 2024  
**Lab Number** : 06087207 **Tested** : 16 Feb 2024  
**Unique Number** : 10874652 **Diagnosed** : 16 Feb 2024 - Jonathan Hester  
**Test Package** : CONST ( Additional Tests: KF )

**TRADEMARK METALS RECYCLING - SUNSHINE**  
 13200 CAIRO LN  
 OPA LOCKA, FL  
 US 33054  
 Contact: Service Manager

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)

T:  
F: