



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area  
**TMR-Sarasota**  
Machine Id  
**23818 LIEBHERR A934 1006-38725**  
Component  
**Hydraulic System**  
Fluid  
**AW HYDRAULIC OIL ISO 46 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DJJ0023213</b>	DJJ0008522	DJJ0000445
Sample Date		Client Info		<b>14 Jun 2024</b>	19 Jan 2023	03 Oct 2019
Machine Age	hrs	Client Info		<b>18889</b>	18127	14250
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changed</b>	N/A	N/A
Filter Changed		Client Info		<b>Not Changed</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>0</b>	1	7
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Lead	ppm	ASTM D5185m	>5	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>15	<b>0</b>	3	1
Tin	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
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

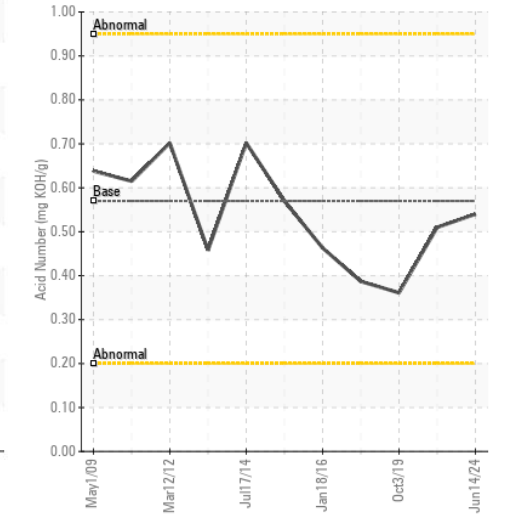
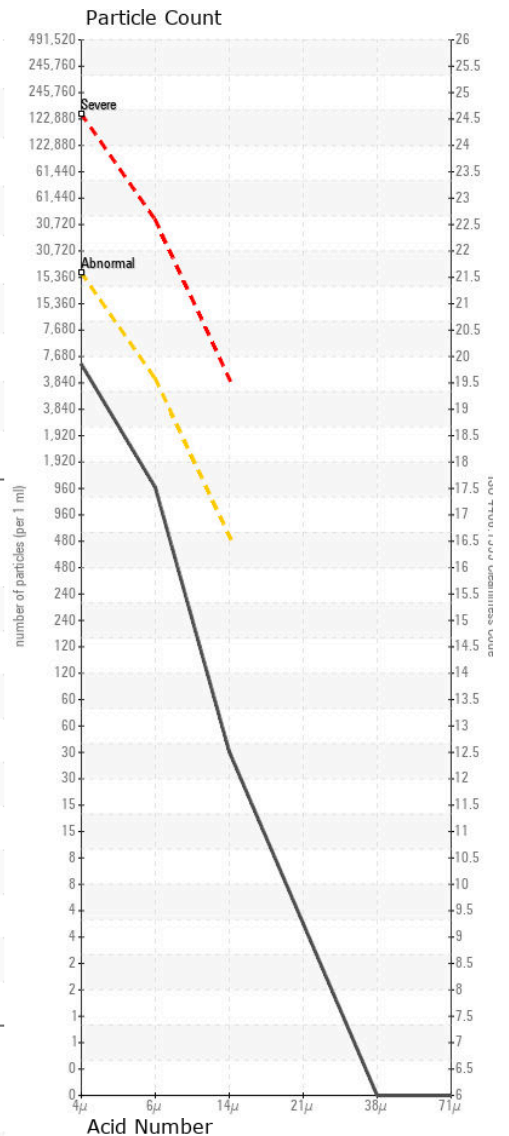
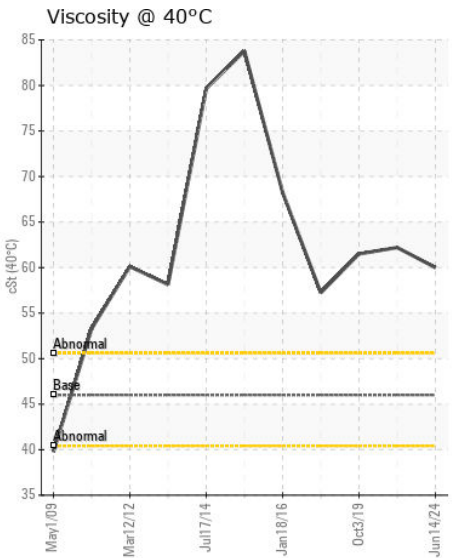
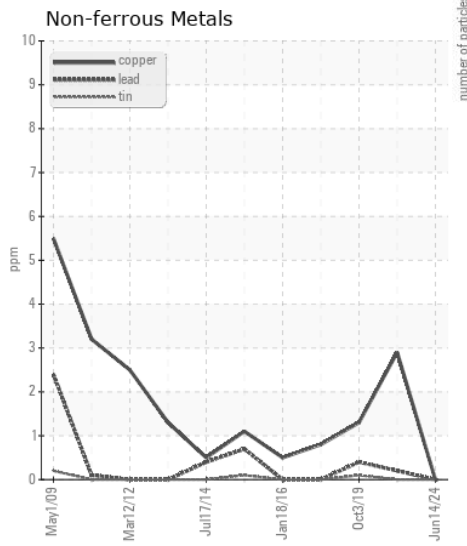
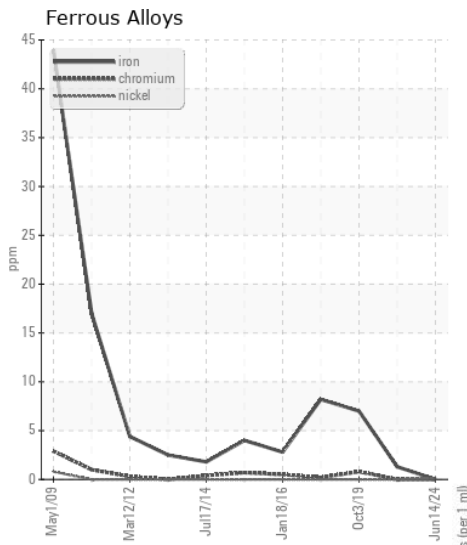
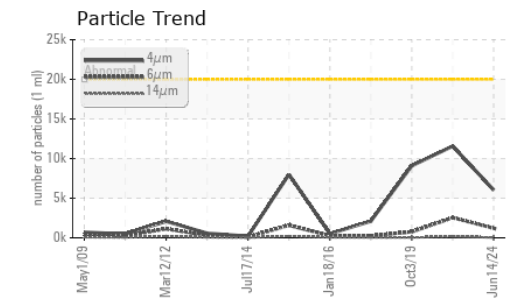
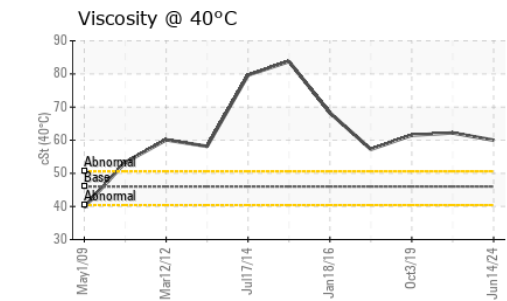
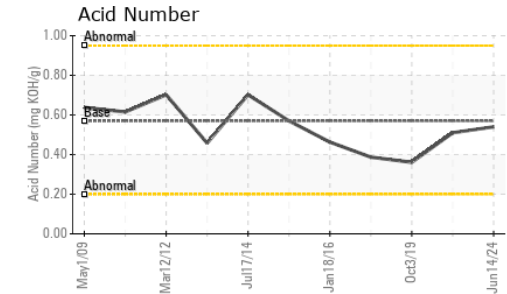
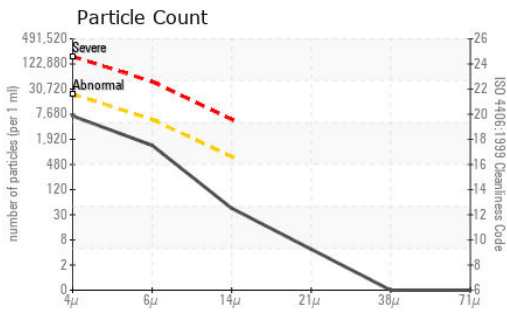
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	<1	<1
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	<b>6046</b>	11570	9086
Particles >6µm		ASTM D7647	>5000	<b>1207</b>	2550	763
Particles >14µm		ASTM D7647	>640	<b>38</b>	165	32
Particles >21µm		ASTM D7647	>160	<b>4</b>	26	6
Particles >38µm		ASTM D7647	>40	<b>0</b>	2	2
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>20/17/12</b>	21/19/15	20/17/12
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	VLITE	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	>0.1	<b>NEG</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>3</b>	0	0
Boron	ppm	ASTM D5185m	5	<b>4</b>	8	2
Barium	ppm	ASTM D5185m	5	<b>0</b>	1	0
Molybdenum	ppm	ASTM D5185m	5	<b>1</b>	9	<1
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m	25	<b>22</b>	32	6
Calcium	ppm	ASTM D5185m	200	<b>481</b>	184	50
Phosphorus	ppm	ASTM D5185m	300	<b>371</b>	380	328
Zinc	ppm	ASTM D5185m	370	<b>452</b>	473	381
Sulfur	ppm	ASTM D5185m	2500	<b>1148</b>	986	704
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	<b>0.54</b>	0.51	0.361
Visc @ 40°C	cSt	ASTM D445	46	<b>60.0</b>	62.2	61.5



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0023213  
**Lab Number** : 06215755  
**Unique Number** : 11088619  
**Test Package** : CONST

**Received** : 20 Jun 2024  
**Tested** : 21 Jun 2024  
**Diagnosed** : 22 Jun 2024 - Don Baldrige

**TRADEMARK METALS RECYCLING - SARASOTA - MYRTLE ST**  
 1735 MYRTLE STREET  
 SARASOTA, FL  
 US 34234  
 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)

T: (941)359-2457  
 F: (941)359-2457