



# OIL ANALYSIS REPORT

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

Machine Id  
**LIEBHERR 22671**  
 Component  
**Hydraulic System**  
 Fluid  
**AW HYDRAULIC OIL ISO 68 (--- GAL)**

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

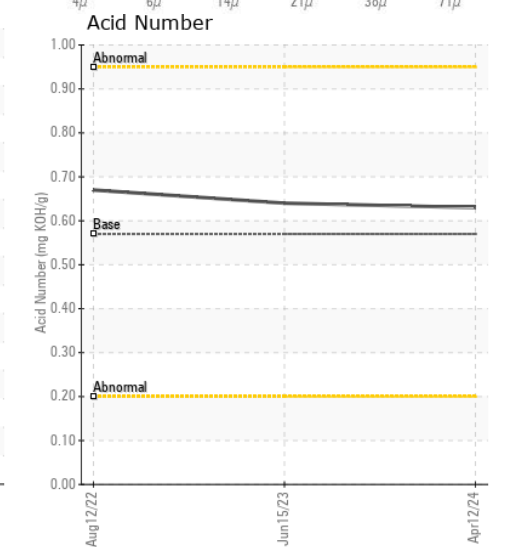
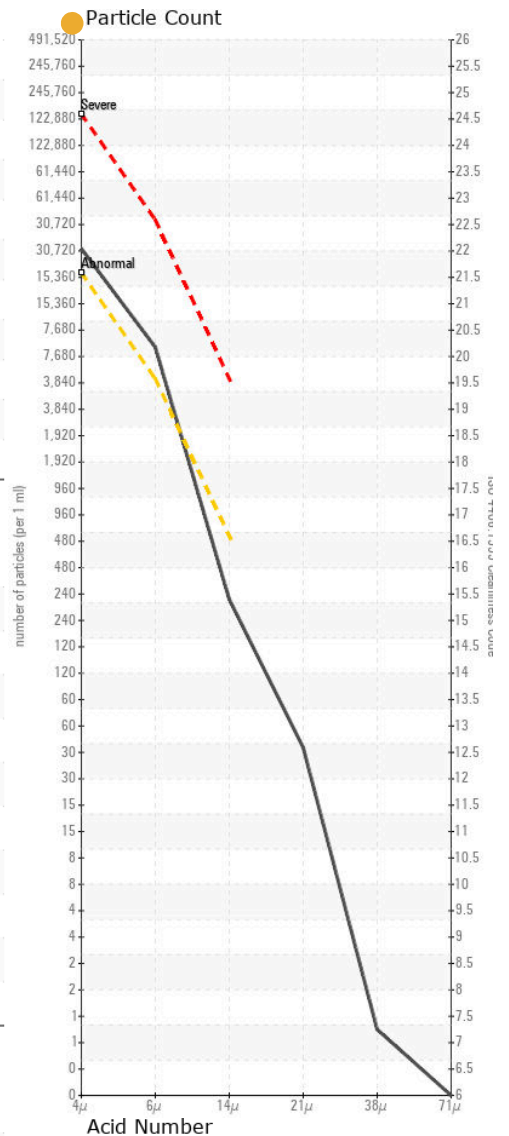
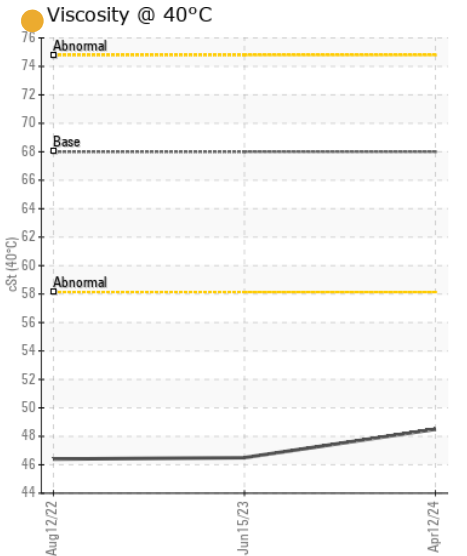
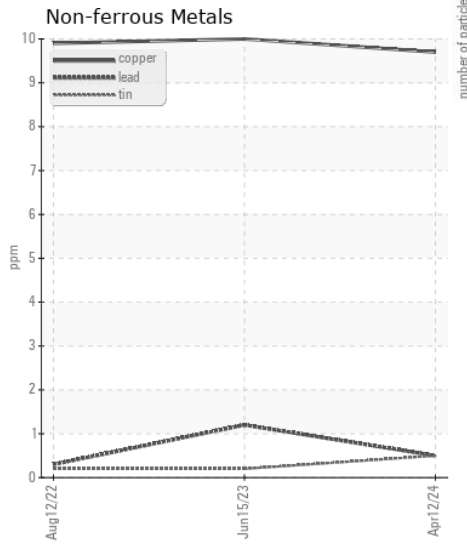
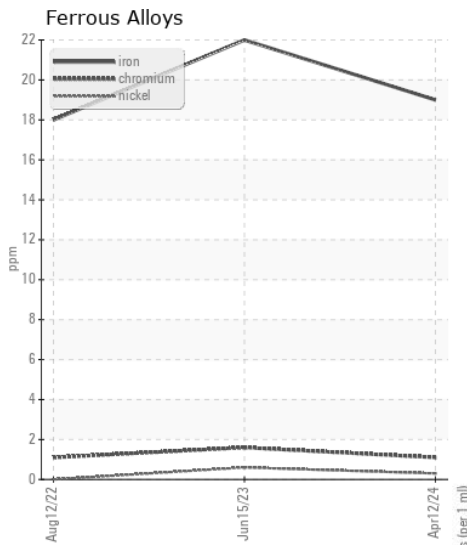
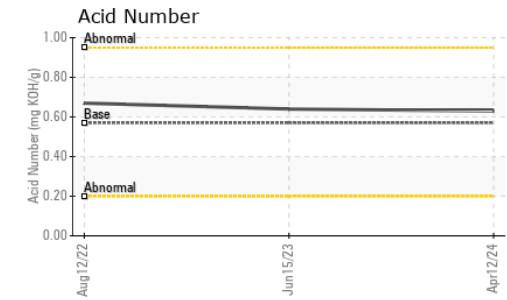
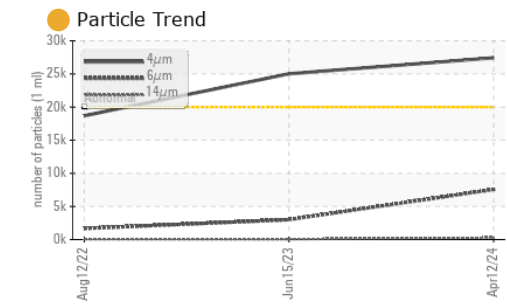
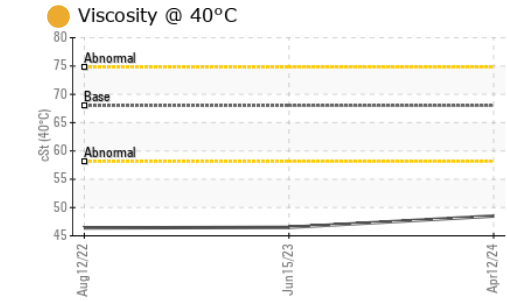
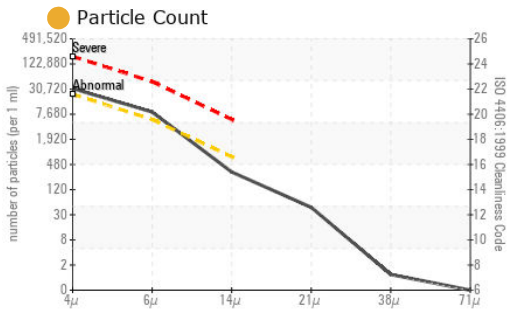
## CONTAMINATION

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

## FLUID CONDITION

Viscosity of sample indicates oil is within ISO 46 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0913729</b>	WC0810130	WC0715927
Sample Date		Client Info		<b>12 Apr 2024</b>	15 Jun 2023	12 Aug 2022
Machine Age	hrs	Client Info		<b>5735</b>	4798	4239
Oil Age	hrs	Client Info		<b>1500</b>	1000	0
Filter Age	hrs	Client Info		<b>1500</b>	1000	500
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>20	<b>19</b>	▲ 22	18
Chromium	ppm	ASTM D5185m	>10	<b>1</b>	2	1
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m		<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>10	<b>9</b>	▲ 12	8
Lead	ppm	ASTM D5185m	>10	<b>&lt;1</b>	1	<1
Copper	ppm	ASTM D5185m	>75	<b>10</b>	10	10
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<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
Silicon	ppm	ASTM D5185m	>20	<b>15</b>	17	12
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	● <b>27438</b>	● 25018	18691
Particles >6µm		ASTM D7647	>5000	● <b>7558</b>	3002	1673
Particles >14µm		ASTM D7647	>640	<b>279</b>	49	57
Particles >21µm		ASTM D7647	>160	<b>40</b>	4	13
Particles >38µm		ASTM D7647	>40	<b>1</b>	0	0
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	● <b>22/20/15</b>	● 22/19/13	21/18/13
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</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	>0.1	<b>NEG</b>	NEG	NEG
Sodium	ppm	ASTM D5185m		<b>13</b>	13	13
Boron	ppm	ASTM D5185m	5	<b>0</b>	0	2
Barium	ppm	ASTM D5185m	5	<b>0</b>	2	<1
Molybdenum	ppm	ASTM D5185m	5	<b>&lt;1</b>	<1	<1
Manganese	ppm	ASTM D5185m		<b>2</b>	<1	<1
Magnesium	ppm	ASTM D5185m	25	<b>21</b>	16	12
Calcium	ppm	ASTM D5185m	200	<b>1024</b>	1261	1100
Phosphorus	ppm	ASTM D5185m	300	<b>379</b>	403	362
Zinc	ppm	ASTM D5185m	370	<b>452</b>	524	427
Sulfur	ppm	ASTM D5185m	2500	<b>4080</b>	4710	3481
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	<b>0.63</b>	0.64	0.67
Visc @ 40°C	cSt	ASTM D445	68	● <b>48.5</b>	● 46.5	46.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0913729  
**Lab Number** : 06151047  
**Unique Number** : 10981125  
**Test Package** : CONST

**SULLIVAN EASTERN INC-LIEBHERR**  
 2860 C SLATER RD  
 MORRISVILLE, NC  
 US 27560  
 Contact: CHRIS CALTON

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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