



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR A934C 061320-1006**  
Component  
**Hydraulic System**  
Fluid  
**AW HYDRAULIC OIL ISO 32 (290 LTR)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LH0288156</b>	LH	LH
Sample Date		Client Info		<b>16 Apr 2024</b>	06 Nov 2023	28 Apr 2023
Machine Age	hrs	Client Info		<b>23560</b>	23100	0
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 Changd</b>	N/A	Not Changd
Filter Changed		Client Info		<b>N/A</b>	N/A	Not Changd
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>70	<b>3</b>	2	3
Chromium	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>2	<b>0</b>	0	<1
Lead	ppm	ASTM D5185(m)	>5	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m)	>15	<b>2</b>	1	1
Tin	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<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

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

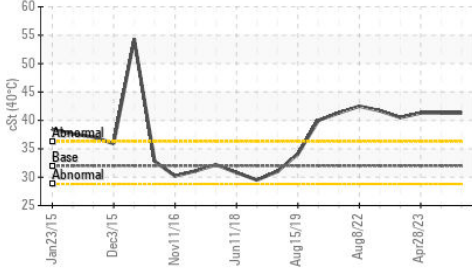
Silicon	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	1
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	<1
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Particles >4µm		ASTM D7647	>20000	<b>10932</b>	● 32942	▲ 46536
Particles >6µm		ASTM D7647	>5000	<b>3396</b>	● 8485	▲ 16962
Particles >14µm		ASTM D7647	>640	<b>175</b>	● 677	▲ 1471
Particles >21µm		ASTM D7647	>160	<b>27</b>	173	▲ 378
Particles >38µm		ASTM D7647	>40	<b>0</b>	6	22
Particles >71µm		ASTM D7647	>10	<b>0</b>	0	1
Oil Cleanliness		ISO 4406 (c)	>21/19/16	<b>21/19/15</b>	● 22/20/17	▲ 23/21/18
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
Debris	scalar	Visual*	NONE	<b>NONE</b>	VLITE	VLITE
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

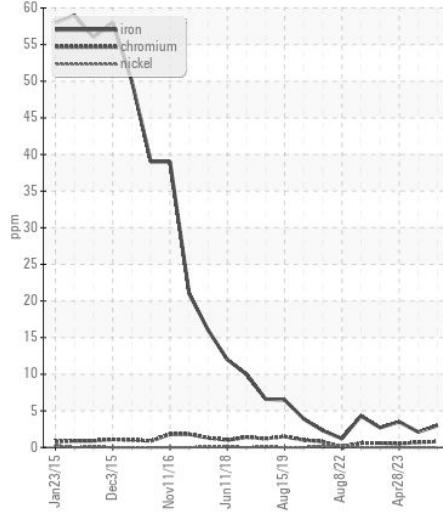
Viscosity of sample indicates oil is within ISO 46 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	0
Boron	ppm	ASTM D5185(m)	5	<b>0</b>	<1	0
Barium	ppm	ASTM D5185(m)	5	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)	5	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	25	<b>3</b>	1	<1
Calcium	ppm	ASTM D5185(m)	200	<b>77</b>	72	70
Phosphorus	ppm	ASTM D5185(m)	300	<b>483</b>	485	494
Zinc	ppm	ASTM D5185(m)	370	<b>617</b>	626	603
Sulfur	ppm	ASTM D5185(m)	2500	<b>1108</b>	1123	1110
Visc @ 40°C	cSt	ASTM D7279(m)	32	▲ <b>41.3</b>	▲ 41.3	▲ 41.3

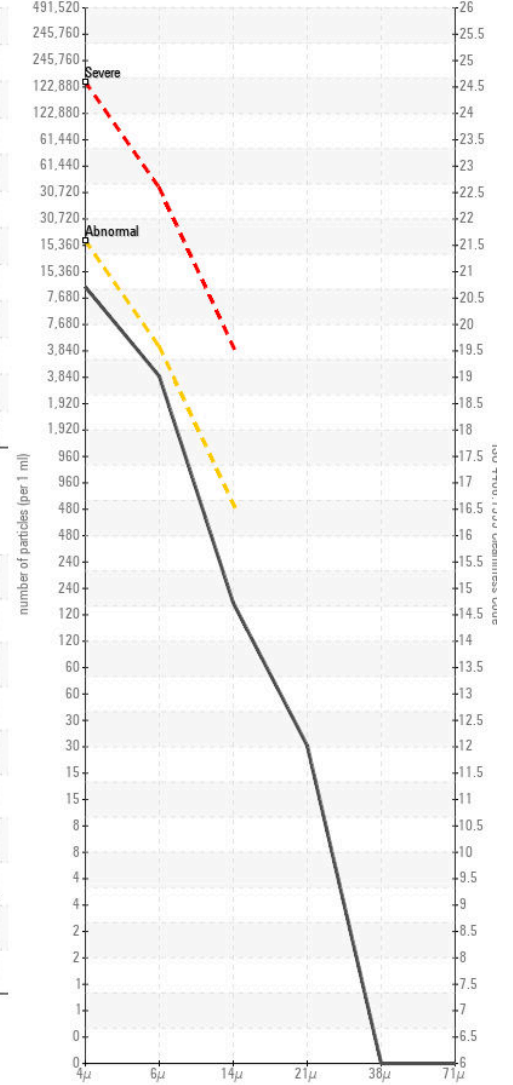
▲ Viscosity @ 40°C



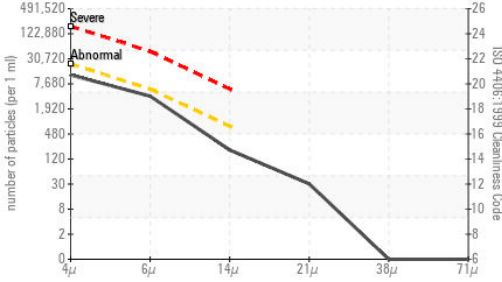
Ferrous Alloys



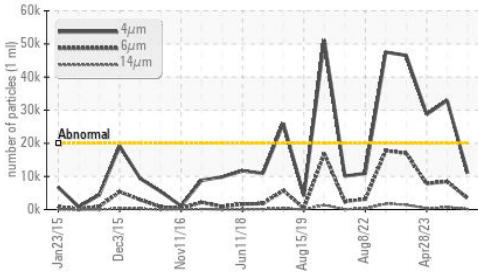
Particle Count



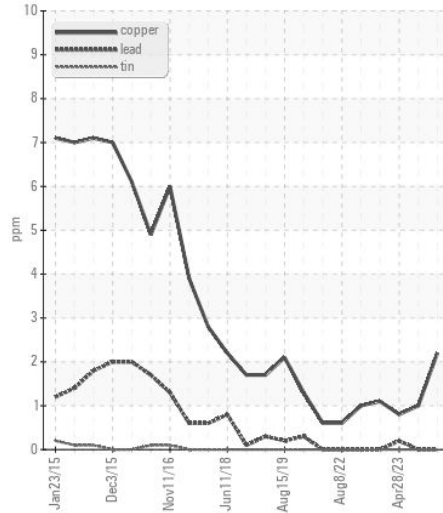
Particle Count



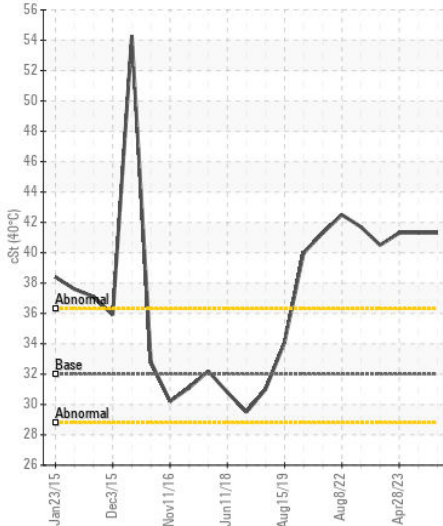
Particle Trend



Non-ferrous Metals



▲ Viscosity @ 40°C



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : LH0288156 **Received** : 02 May 2024  
**Lab Number** : 02632799 **Tested** : 03 May 2024  
**Unique Number** : 5773952 **Diagnosed** : 03 May 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: PrtCount )

**Urban Mine**  
 72 Rothwell Rd.  
 Winnipeg, MB  
 CA R3P 2H7  
 Contact: SERVICE

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

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 F: