



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR A944 043697
Component
Hydraulic System
Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0289655	LH0277791	LH0274661
Sample Date		Client Info		10 Jun 2024	20 Nov 2023	23 Aug 2023
Machine Age	hrs	Client Info		22785	22174	21803
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ATTENTION

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>60	10	13	12
Chromium	ppm	ASTM D5185(m)	>40	4	8	8
Nickel	ppm	ASTM D5185(m)	>10	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>5	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>5	0	0	<1
Copper	ppm	ASTM D5185(m)	>15	2	2	2
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	▲ LIGHT	NONE

CONTAMINATION

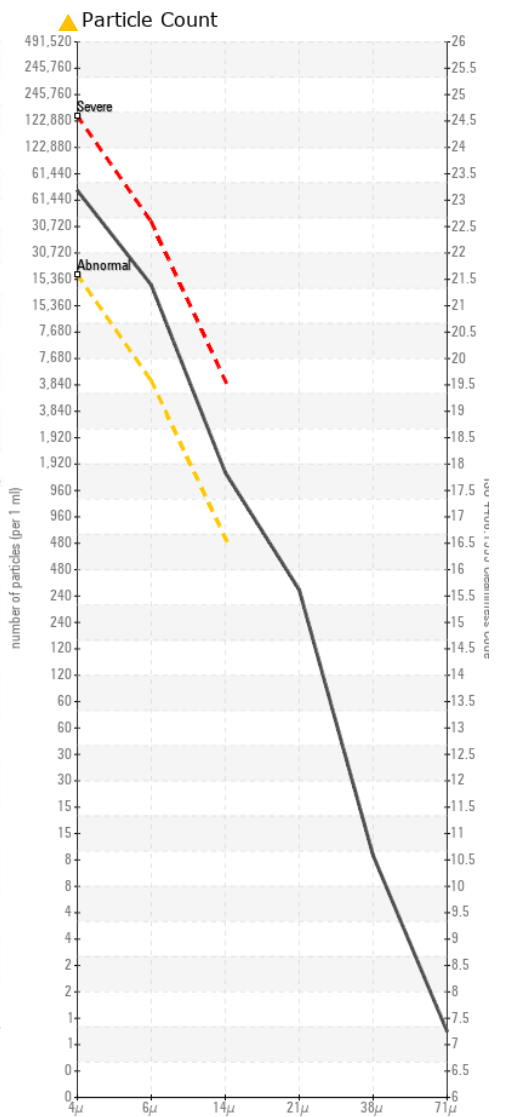
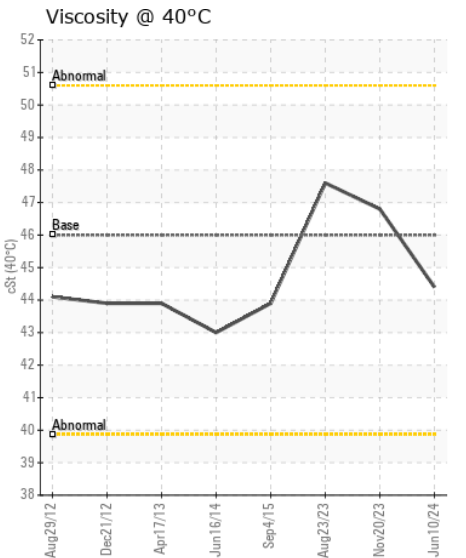
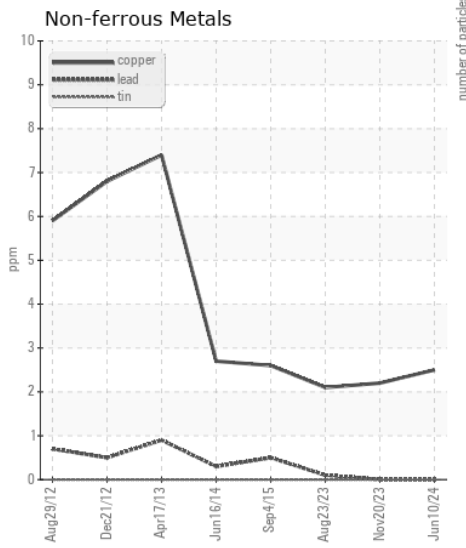
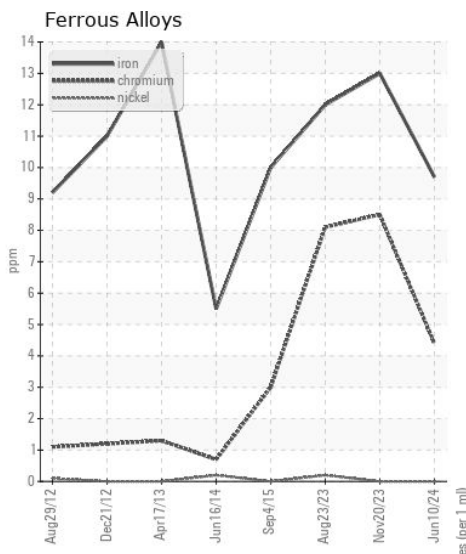
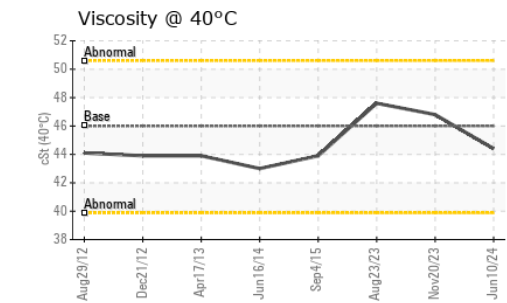
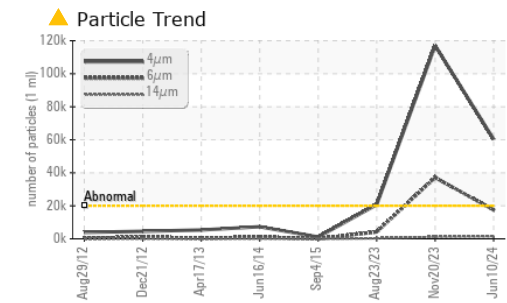
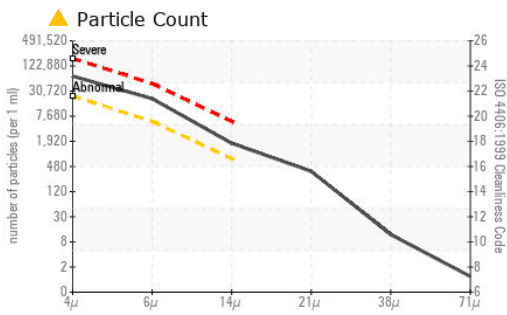
There is a moderate amount of particulates (2 to 100 microns in size) present in the oil.

Silicon	ppm	ASTM D5185(m)	>15	<1	2	1
Potassium	ppm	ASTM D5185(m)	>20	<1	0	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	▲ 60313	▲ 117006	● 20704
Particles >6µm		ASTM D7647	>5000	▲ 17497	▲ 37123	4195
Particles >14µm		ASTM D7647	>640	▲ 1508	● 1165	311
Particles >21µm		ASTM D7647	>160	▲ 324	143	84
Particles >38µm		ASTM D7647	>40	10	5	3
Particles >71µm		ASTM D7647	>10	1	2	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 23/21/18	▲ 24/22/17	● 22/19/15
Silt	scalar	Visual*	NONE	NONE	VLITE	NONE
Debris	scalar	Visual*	NONE	NONE	▲ LIGHT	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG

FLUID CONDITION

The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Boron	ppm	ASTM D5185(m)	5	<1	<1	<1
Barium	ppm	ASTM D5185(m)	5	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	5	45	30	<1
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)	25	4	4	5
Calcium	ppm	ASTM D5185(m)	200	82	78	84
Phosphorus	ppm	ASTM D5185(m)	300	453	358	367
Zinc	ppm	ASTM D5185(m)	370	536	424	432
Sulfur	ppm	ASTM D5185(m)	2500	1398	1317	1324
Visc @ 40°C	cSt	ASTM D7279(m)	46	44.4	46.8	47.6



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0289655 **Received** : 11 Jun 2024
Lab Number : 02641169 **Tested** : 12 Jun 2024
Unique Number : 5798708 **Diagnosed** : 12 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: PrtCount)

GERDAU AMERISTEEL
 2025 RIVER RD.
 LONDON, ON
 CA N5W 6C4
 Contact: Scott MacDonald

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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