



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area
BDT EQUIPMENT
Machine Id
LIEBHERR R938 52175-1650
Component
Hydraulic System
Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0290971	LH0278991	LH0261811
Sample Date		Client Info		31 May 2024	14 Nov 2023	19 May 2023
Machine Age	hrs	Client Info		3501	2870	2339
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>50	8	8	8
Chromium	ppm	ASTM D5185(m)	>15	0	0	0
Nickel	ppm	ASTM D5185(m)	>5	0	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>8	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>5	<1	1	<1
Copper	ppm	ASTM D5185(m)	>15	8	8	7
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	NONE	NONE

CONTAMINATION

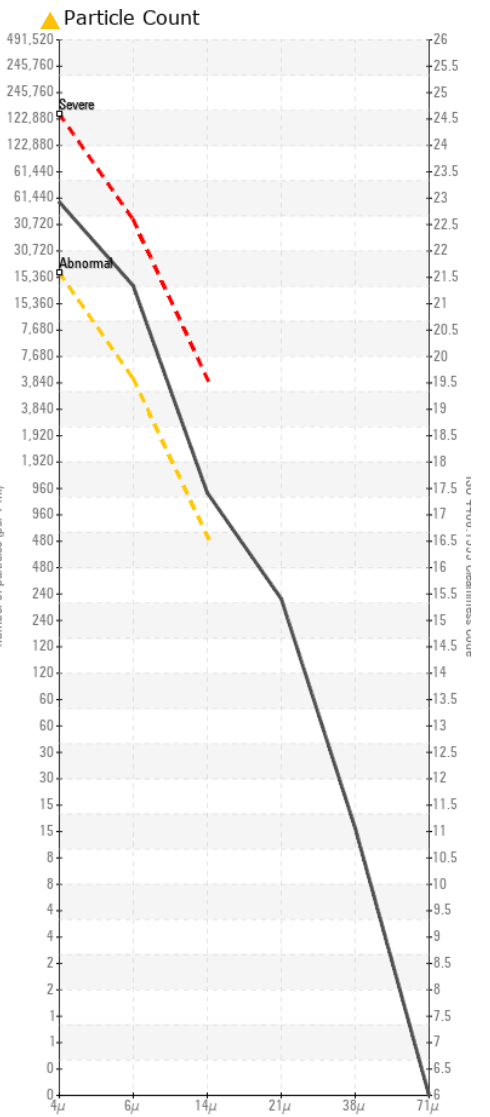
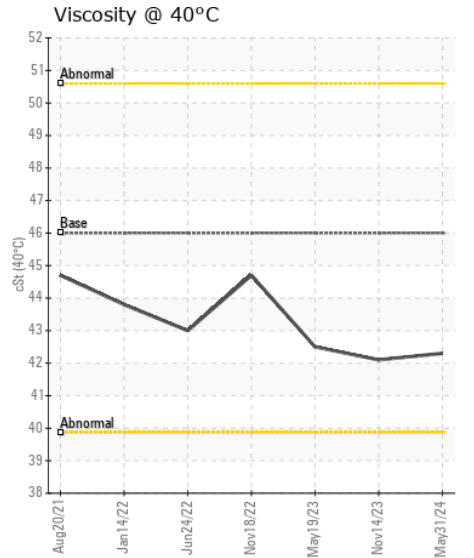
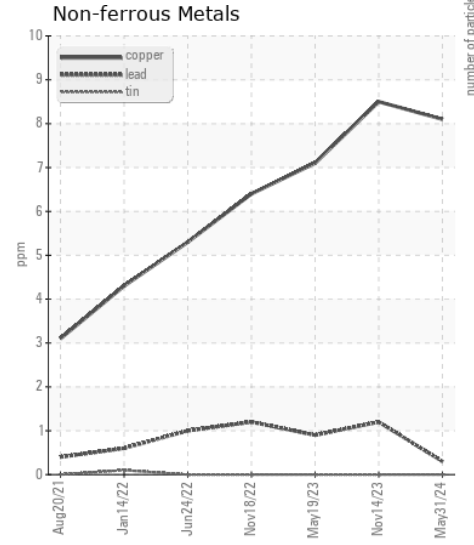
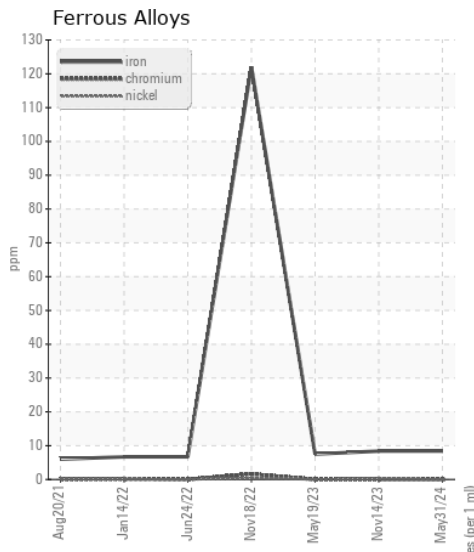
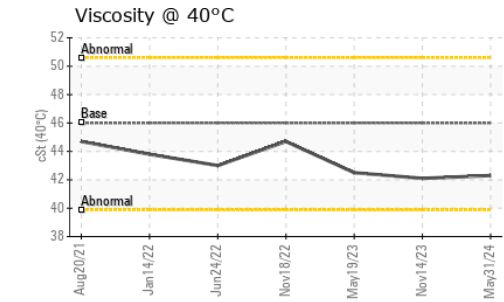
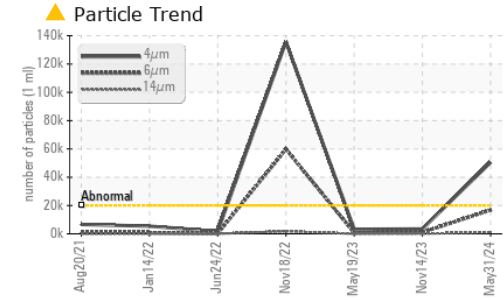
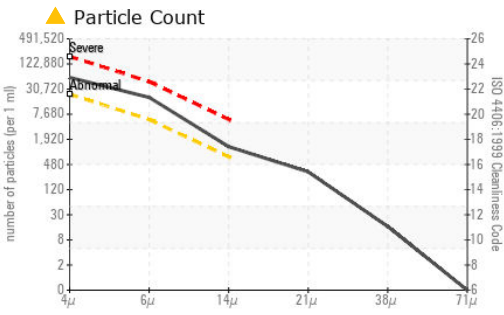
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185(m)	>25	3	<1	4
Potassium	ppm	ASTM D5185(m)	>20	<1	0	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	▲ 50492	3456	3246
Particles >6µm		ASTM D7647	>5000	▲ 16833	1036	733
Particles >14µm		ASTM D7647	>640	● 1125	63	23
Particles >21µm		ASTM D7647	>160	● 281	13	5
Particles >38µm		ASTM D7647	>40	14	1	1
Particles >71µm		ASTM D7647	>10	0	1	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 23/21/17	19/17/13	19/17/12
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	VLITE	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)		4	2	3
Boron	ppm	ASTM D5185(m)	5	<1	<1	<1
Barium	ppm	ASTM D5185(m)	5	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	5	0	0	0
Manganese	ppm	ASTM D5185(m)		<1	0	<1
Magnesium	ppm	ASTM D5185(m)	25	4	4	4
Calcium	ppm	ASTM D5185(m)	200	1277	1383	1448
Phosphorus	ppm	ASTM D5185(m)	300	597	605	672
Zinc	ppm	ASTM D5185(m)	370	692	686	685
Sulfur	ppm	ASTM D5185(m)	2500	4047	4296	4537
Visc @ 40°C	cSt	ASTM D7279(m)	46	42.3	42.1	42.5



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0290971 **Received** : 04 Jun 2024
Lab Number : 02639663 **Tested** : 05 Jun 2024
Unique Number : 5788825 **Diagnosed** : 06 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: PrtCount)

BDT EQUIPMENT CORPORATION
 835 SAWMILL RD
 BLOOMINGDALE, ON
 CA N0B 1K0
 Contact: Service Manager

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.

T:
F: