



LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
145797-1218 LIEBHERR LH80M 145797-1218

Component
Hydraulic System

Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0257702	LH0257720	---
Sample Date		Client Info		10 Jun 2024	09 Apr 2024	---
Machine Age	hrs	Client Info		2017	1579	---
Oil Age	hrs	Client Info		2017	1579	---
Filter Age	hrs	Client Info		1000	500	---
Oil Changed		Client Info		Changed	Not Changd	---
Filter Changed		Client Info		Changed	Not Changd	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

The copper level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>60	26	25	---
Chromium	ppm	ASTM D5185m	>40	<1	<1	---
Nickel	ppm	ASTM D5185m	>10	0	0	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>5	0	2	---
Lead	ppm	ASTM D5185m	>5	0	<1	---
Copper	ppm	ASTM D5185m	>15	▲ 21	▲ 24	---
Tin	ppm	ASTM D5185m	>5	0	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	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	>15	7	7	---
Potassium	ppm	ASTM D5185m	>20	0	2	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>20000	11472	---	---
Particles >6µm		ASTM D7647	>5000	4739	---	---
Particles >14µm		ASTM D7647	>640	433	---	---
Particles >21µm		ASTM D7647	>160	65	---	---
Particles >38µm		ASTM D7647	>40	3	---	---
Particles >71µm		ASTM D7647	>10	0	---	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	21/19/16	---	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	▲ MODER	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	---

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<1	0	---
Boron	ppm	ASTM D5185m	5	0	0	---
Barium	ppm	ASTM D5185m	5	0	0	---
Molybdenum	ppm	ASTM D5185m	5	0	0	---
Manganese	ppm	ASTM D5185m		<1	0	---
Magnesium	ppm	ASTM D5185m	25	0	3	---
Calcium	ppm	ASTM D5185m	200	584	713	---
Phosphorus	ppm	ASTM D5185m	300	433	457	---
Zinc	ppm	ASTM D5185m	370	544	586	---
Sulfur	ppm	ASTM D5185m	2500	3602	3145	---
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.70	0.83	---
Visc @ 40°C	cSt	ASTM D445	46	52.4	● 50.7	---

