



LIEBHERR

OIL ANALYSIS REPORT

WEAR
CONTAMINATION
FLUID CONDITION

SEVERE

NORMAL

NORMAL



Machine Id
LIEBHERR R956 052633
Component
Hydraulic System
Fluid
{not provided} (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0220983	LH0220980	LH0220759
Sample Date		Client Info		15 May 2024	24 Jul 2023	19 Aug 2022
Machine Age	hrs	Client Info		2940	2006	995
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				SEVERE	ABNORMAL	ABNORMAL

WEAR

The iron level is severe.

Iron	ppm	ASTM D5185m	>50	▲ 199	▲ 80	▲ 75
Chromium	ppm	ASTM D5185m	>15	2	1	1
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		<1	0	<1
Aluminum	ppm	ASTM D5185m	>8	<1	<1	2
Lead	ppm	ASTM D5185m	>5	0	<1	<1
Copper	ppm	ASTM D5185m	>15	4	3	3
Tin	ppm	ASTM D5185m	>5	0	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

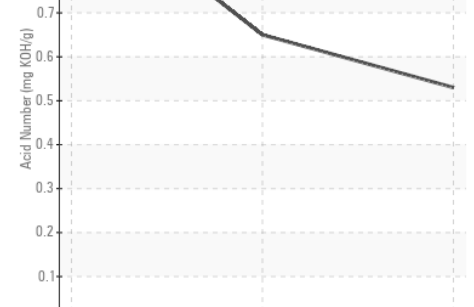
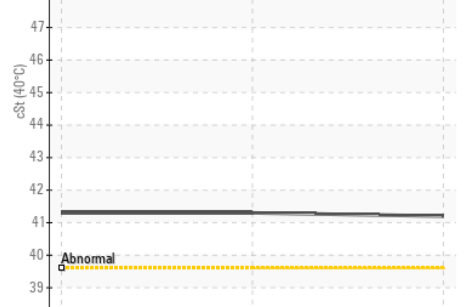
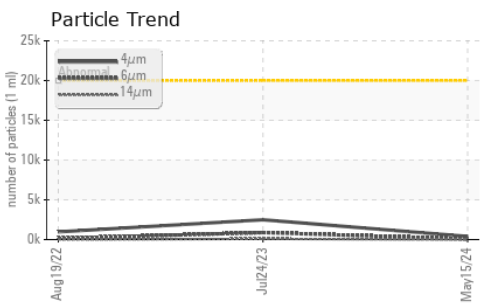
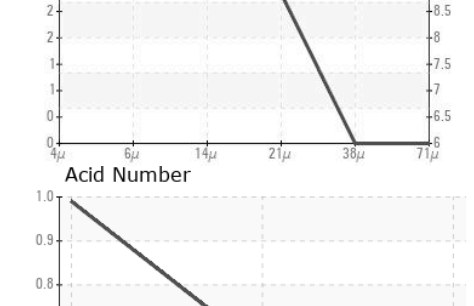
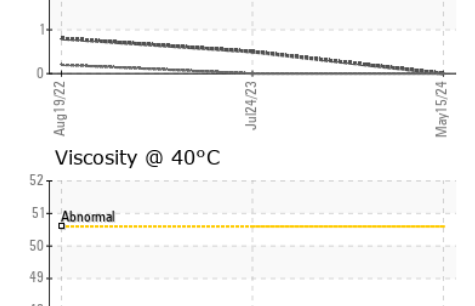
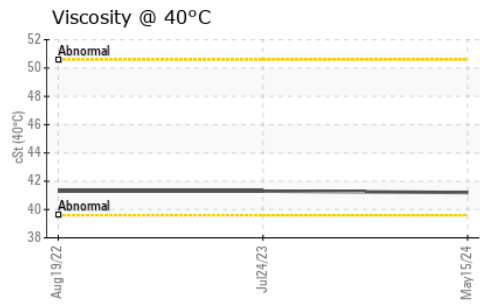
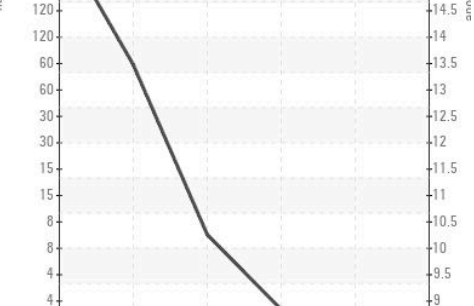
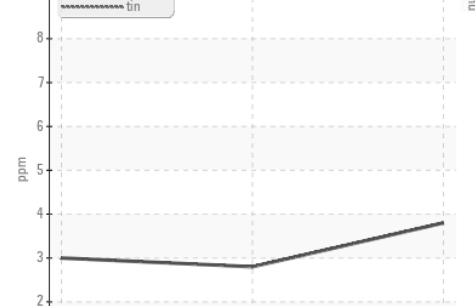
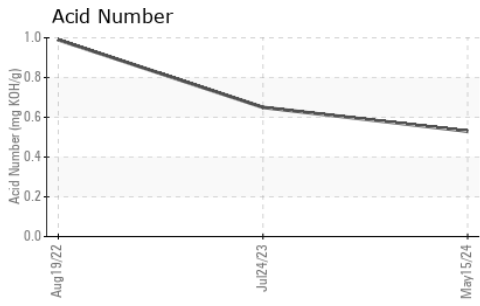
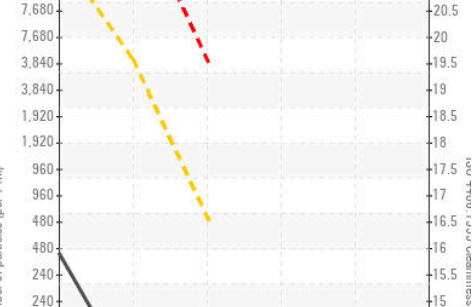
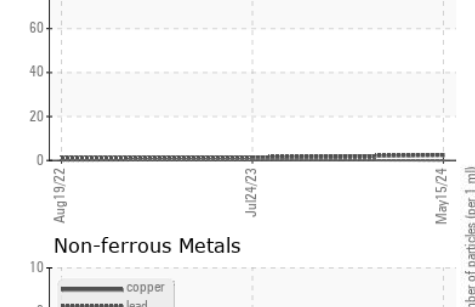
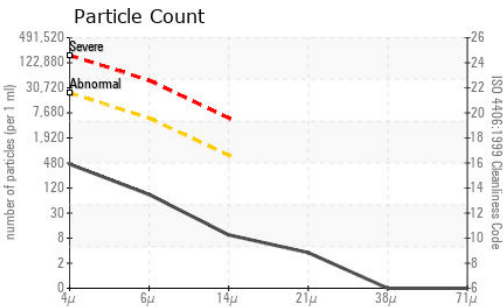
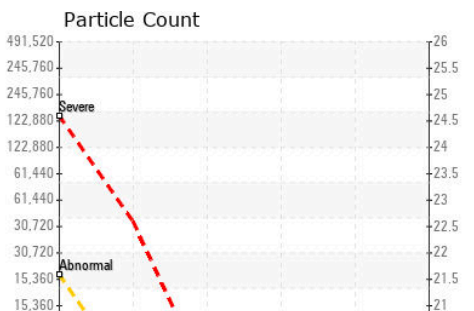
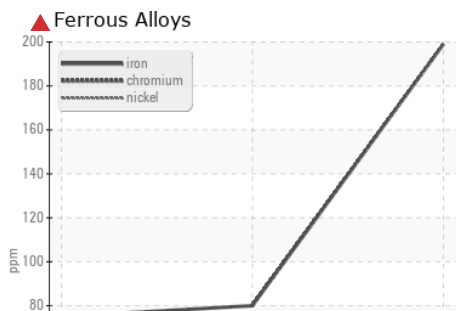
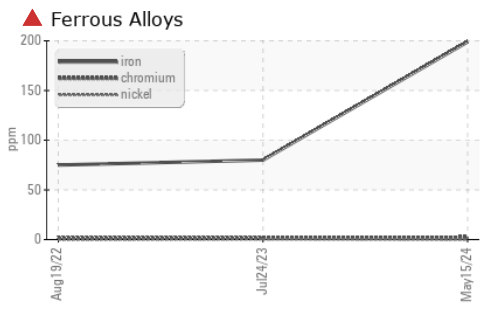
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>25	4	3	6
Potassium	ppm	ASTM D5185m	>20	0	1	<1
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	395	2491	969
Particles >6µm		ASTM D7647	>5000	74	873	150
Particles >14µm		ASTM D7647	>640	8	84	17
Particles >21µm		ASTM D7647	>160	3	23	6
Particles >38µm		ASTM D7647	>40	0	1	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	16/13/10	18/17/14	17/14/11
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
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 AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		4	<1	1
Boron	ppm	ASTM D5185m		2	4	3
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	2	<1
Manganese	ppm	ASTM D5185m		3	1	2
Magnesium	ppm	ASTM D5185m		17	18	5
Calcium	ppm	ASTM D5185m		474	477	1094
Phosphorus	ppm	ASTM D5185m		401	407	527
Zinc	ppm	ASTM D5185m		480	509	640
Sulfur	ppm	ASTM D5185m		2280	2166	3303
Acid Number (AN)	mg KOH/g	ASTM D8045		0.53	0.65	0.99
Visc @ 40°C	cSt	ASTM D445		41.2	41.3	41.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0220983
Lab Number : 06189722
Unique Number : 11046474
Test Package : MOBCE
Received : 23 May 2024
Tested : 25 May 2024
Diagnosed : 30 May 2024 - Jonathan Hester

WIMME SAND AND GRAVEL
 PO BOX 195
 PLOVER, MI
 US 54467
 Contact: Service Manager

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)