



LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION



Machine Id
LIEBHERR LH30M 117414-1253
Component
Hydraulic System
Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)

RECOMMENDATION

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		LH0272892	LH0235760	LH0217603
Sample Date		Client Info		10 Jan 2024	26 Sep 2023	14 Jul 2022
Machine Age	hrs	Client Info		8285	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changed	N/A	N/A
Filter Changed		Client Info		Not Changed	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ATTENTION

WEAR

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

Iron	ppm	ASTM D5185m	>50	▲ 72	▲ 93	37
Chromium	ppm	ASTM D5185m	>5	2	2	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>2	1	0	0
Lead	ppm	ASTM D5185m	>4	<1	<1	<1
Copper	ppm	ASTM D5185m	>10	4	5	2
Tin	ppm	ASTM D5185m	>2	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

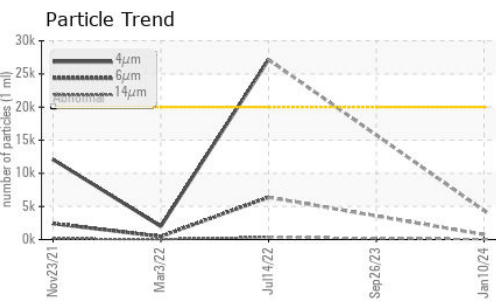
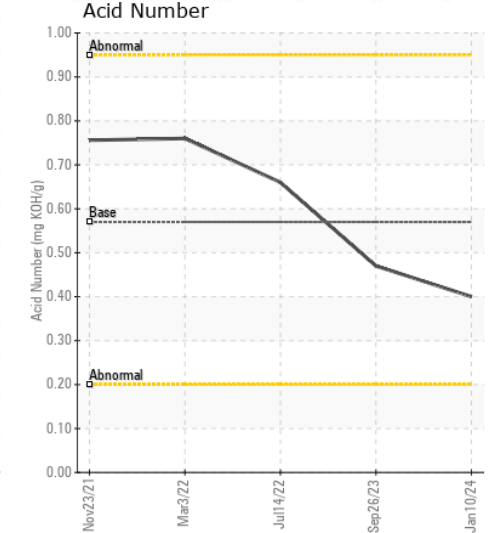
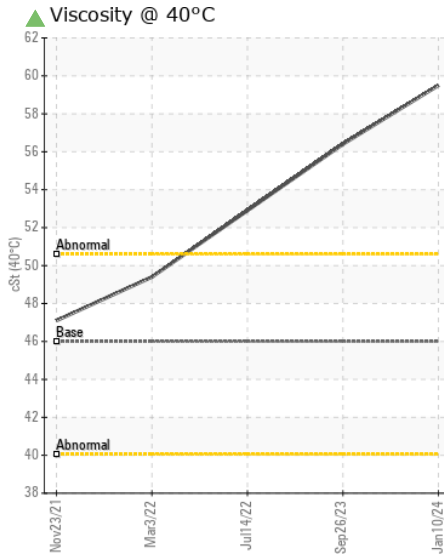
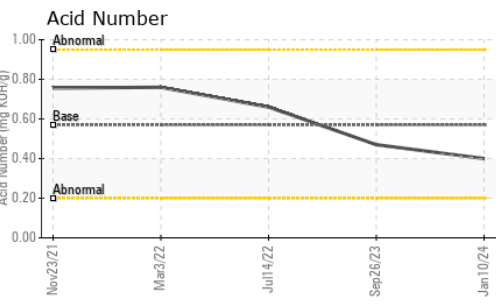
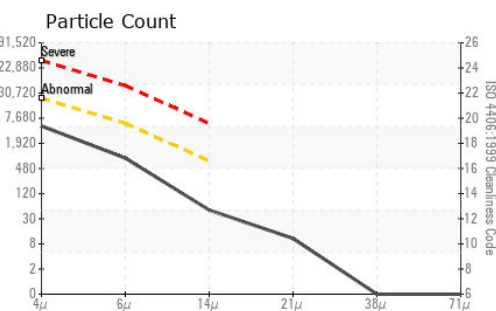
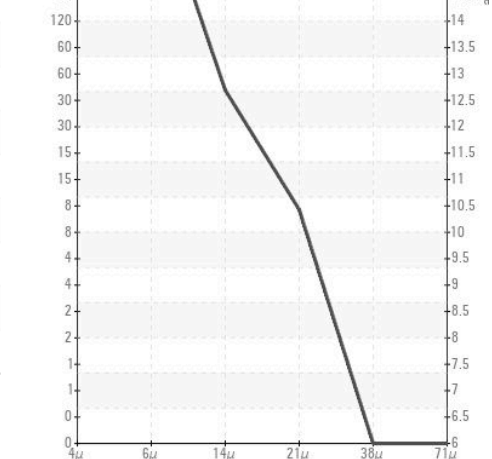
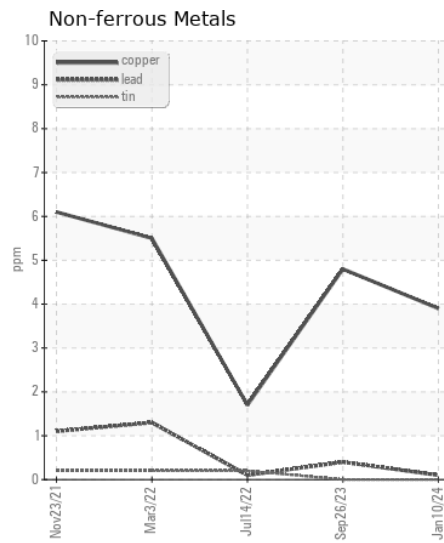
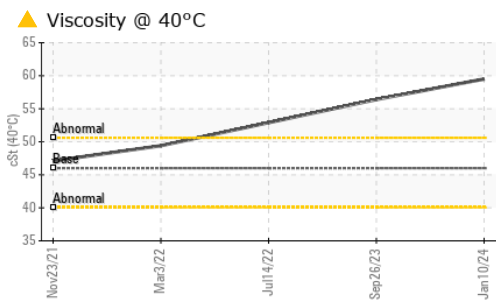
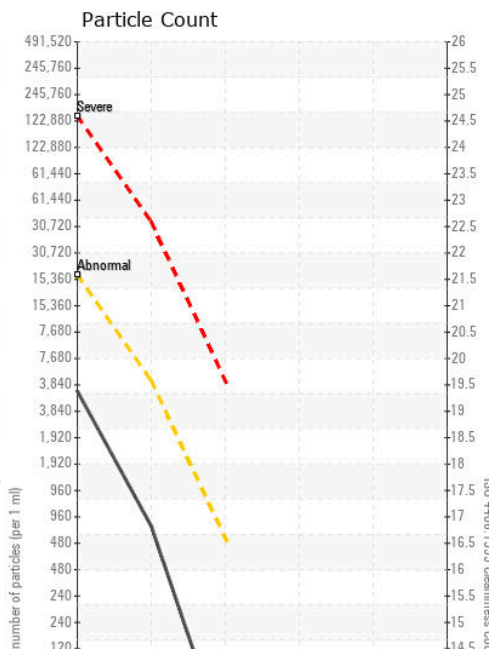
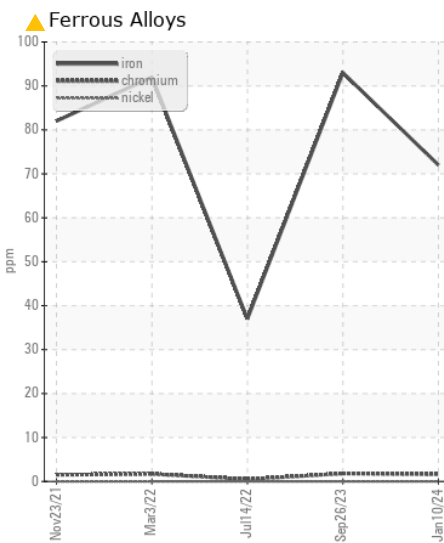
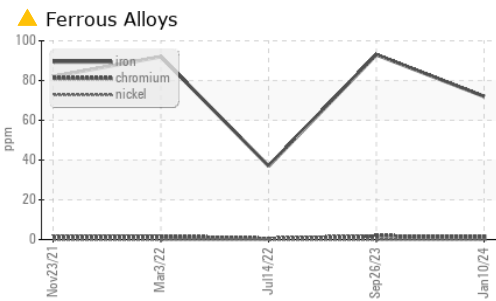
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>17	2	2	1
Potassium	ppm	ASTM D5185m	>20	<1	<1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	4365	---	▲ 27155
Particles >6µm		ASTM D7647	>5000	745	---	▲ 6381
Particles >14µm		ASTM D7647	>640	43	---	352
Particles >21µm		ASTM D7647	>160	9	---	61
Particles >38µm		ASTM D7647	>40	0	---	4
Particles >71µm		ASTM D7647	>10	0	---	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	19/17/13	---	▲ 22/20/16
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	▲ HEAVY	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	0.2%	NEG

FLUID CONDITION

The oil viscosity is higher than normal. Confirm oil type. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		<1	0	0
Boron	ppm	ASTM D5185m	5	0	0	<1
Barium	ppm	ASTM D5185m	5	0	0	0
Molybdenum	ppm	ASTM D5185m	5	0	<1	<1
Manganese	ppm	ASTM D5185m		<1	2	<1
Magnesium	ppm	ASTM D5185m	25	56	48	9
Calcium	ppm	ASTM D5185m	200	143	158	315
Phosphorus	ppm	ASTM D5185m	300	296	282	170
Zinc	ppm	ASTM D5185m	370	362	366	198
Sulfur	ppm	ASTM D5185m	2500	1093	1385	968
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.40	0.47	0.66
Visc @ 40°C	cSt	ASTM D445	46	▲ 59.5	▲ 56.4	▲ 52.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0272892 **Received** : 17 Jan 2024
Lab Number : 06062566 **Diagnosed** : 19 Jan 2024
Unique Number : 10833948 **Diagnostician** : Jonathan Hester
Test Package : CONST

SPARTAN RECYCLING
 3071 HOWARD ST
 SPARTANBURG, SC
 US 29303
 Contact: SERVICE MANAGER

Certificate L2367
 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)