



LIEBHERR

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH30 101514-1253
Component
Front Left Wheel Hub
Fluid
GEAR OIL SAE 80W90 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of metal. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0272802	LH0235747	LH0217621
Sample Date		Client Info		10 Jan 2024	03 Oct 2023	22 Mar 2023
Machine Age	hrs	Client Info		12010	11543	10552
Oil Age	hrs	Client Info		0	0	2000
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	Not Changed	N/A
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

High concentration of visible metal present. All component wear rates are normal.

Iron	ppm	ASTM D5185m	>450	243	182	▲ 567
Chromium	ppm	ASTM D5185m	>4	<1	<1	2
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	1	1
Lead	ppm	ASTM D5185m	>4	0	0	0
Copper	ppm	ASTM D5185m	>75	2	4	7
Tin	ppm	ASTM D5185m		0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	▲ HEAVY	NONE	MODER
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

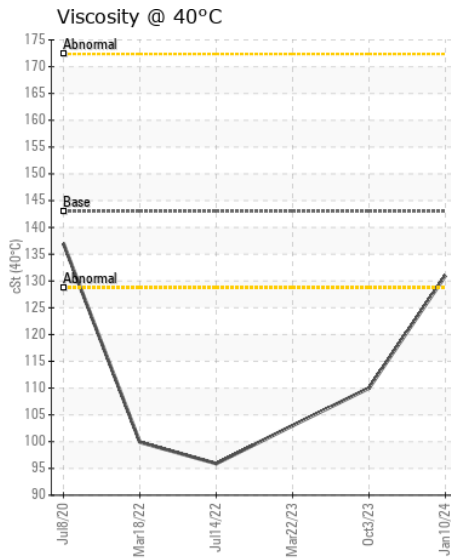
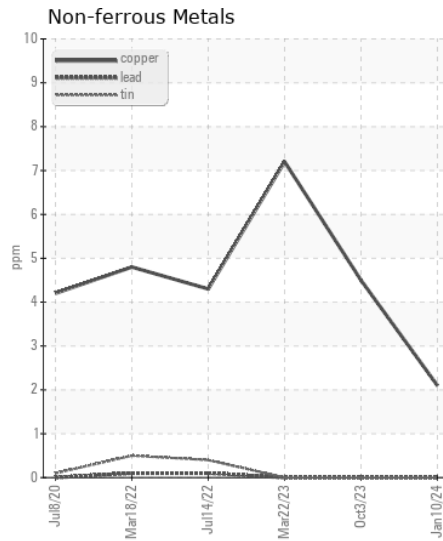
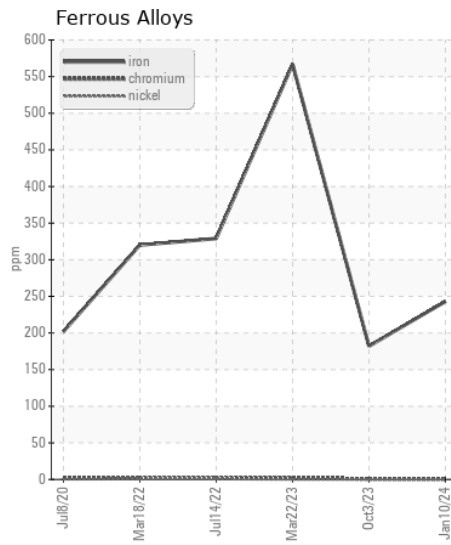
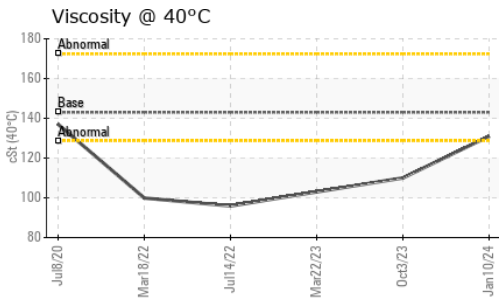
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>60	4	5	9
Potassium	ppm	ASTM D5185m	>20	1	2	2
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	MODER	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	>0.2	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>170	0	<1	2
Boron	ppm	ASTM D5185m	400	0	0	1
Barium	ppm	ASTM D5185m	200	3	0	0
Molybdenum	ppm	ASTM D5185m	12	<1	1	2
Manganese	ppm	ASTM D5185m		1	2	5
Magnesium	ppm	ASTM D5185m	12	5	10	13
Calcium	ppm	ASTM D5185m	150	61	80	108
Phosphorus	ppm	ASTM D5185m	1650	326	289	276
Zinc	ppm	ASTM D5185m	125	0	59	69
Sulfur	ppm	ASTM D5185m	22500	15636	14358	16045
Visc @ 40°C	cSt	ASTM D445	143	131	110	103



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0272802 **Received** : 17 Jan 2024
Lab Number : 06063181 **Diagnosed** : 19 Jan 2024
Unique Number : 10834563 **Diagnostician** : Don Baldrige
Test Package : CONST

SPARTAN RECYCLING
 3071 HOWARD ST
 SPARTANBURG, SC
 US 29303
 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)

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