



LIEBHERR

OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
(360524)
Machine Id
LIEBHERR R926 053645-1827
Component
Swing Drive
Fluid
GEAR OIL SAE 80W90 (--- GAL)

RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0216697	LH0216690	LH0216683
Sample Date		Client Info		12 Jun 2024	19 Nov 2023	03 Jul 2023
Machine Age	hrs	Client Info		4000	3000	2485
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				SEVERE	SEVERE	ABNORMAL

WEAR

Tin ppm levels are severe. Copper and lead ppm levels are abnormal. Bearing and/or bushing wear is indicated.

Iron	ppm	ASTM D5185(m)	>750	505	522	350
Chromium	ppm	ASTM D5185(m)	>10	4	4	3
Nickel	ppm	ASTM D5185(m)	>5	0	<1	0
Titanium	ppm	ASTM D5185(m)		<1	0	<1
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>5	▲ 7	▲ 6	4
Copper	ppm	ASTM D5185(m)	>250	▲ 304	▲ 251	161
Tin	ppm	ASTM D5185(m)	>10	▲ 28	▲ 22	▲ 14
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	VLITE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

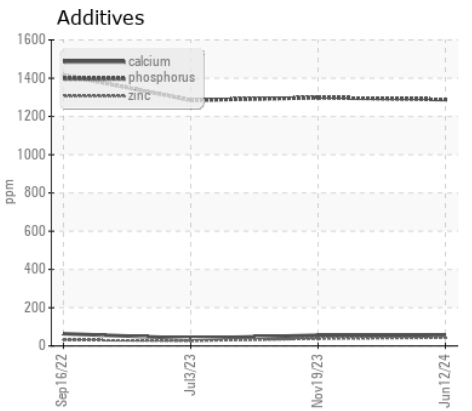
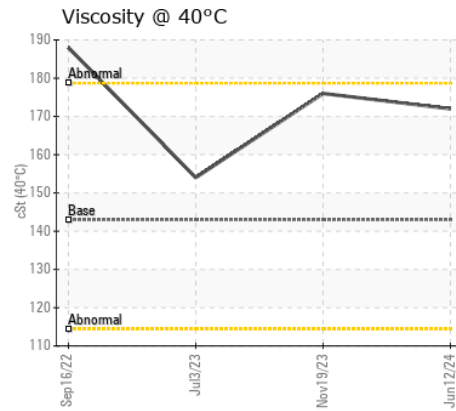
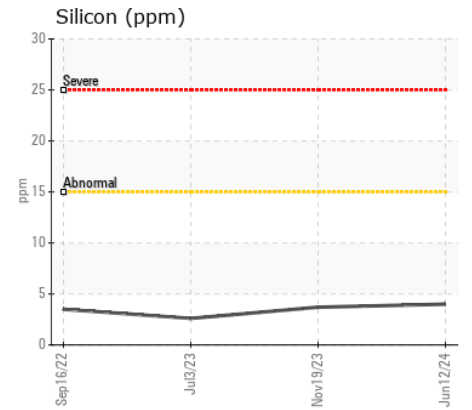
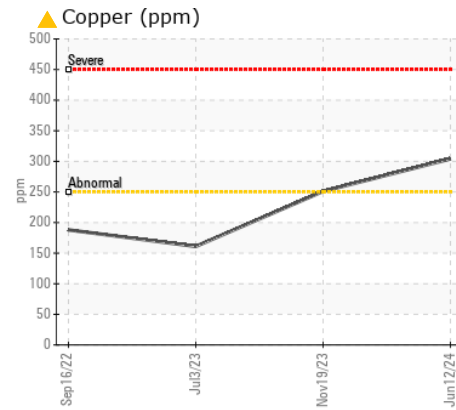
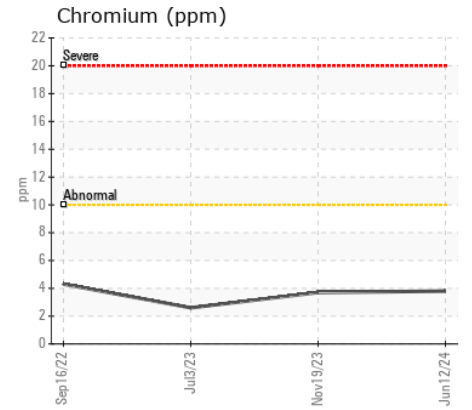
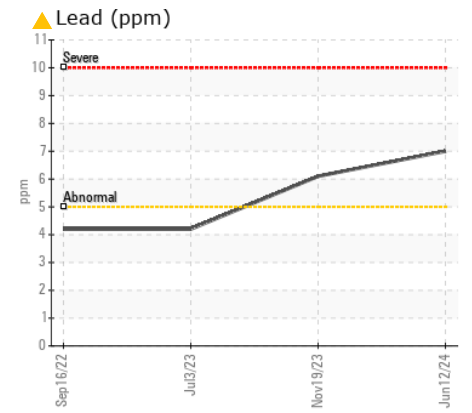
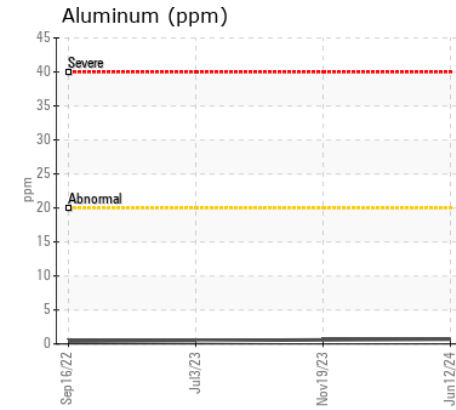
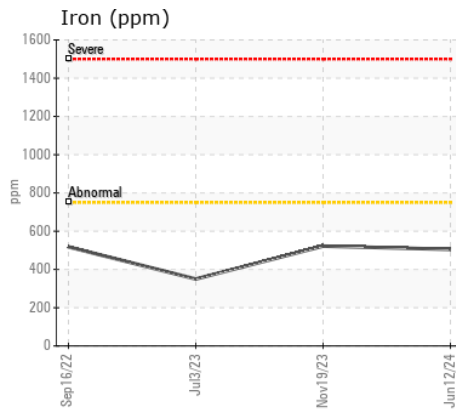
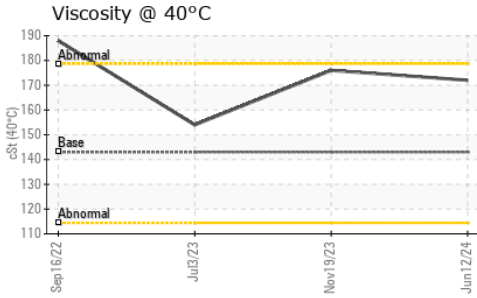
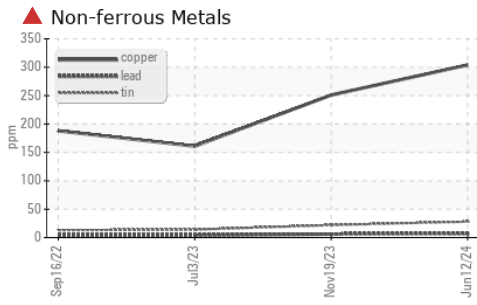
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>15	4	4	3
Potassium	ppm	ASTM D5185(m)	>20	2	1	2
Water		WC Method	>0.2	NEG	NEG	NEG
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	WGOIL	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)	>170	7	7	5
Boron	ppm	ASTM D5185(m)	400	19	16	51
Barium	ppm	ASTM D5185(m)	200	11	11	8
Molybdenum	ppm	ASTM D5185(m)	12	0	0	0
Manganese	ppm	ASTM D5185(m)		5	4	3
Magnesium	ppm	ASTM D5185(m)	12	3	1	1
Calcium	ppm	ASTM D5185(m)	150	55	56	40
Phosphorus	ppm	ASTM D5185(m)	1650	1288	1298	1285
Zinc	ppm	ASTM D5185(m)	125	43	38	27
Sulfur	ppm	ASTM D5185(m)	22500	22664	22879	22836
Visc @ 40°C	cSt	ASTM D7279(m)	143	172	176	154



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0216697
Lab Number : 02641789
Unique Number : 5799328
Test Package : MOBCE

HAWKESBURY TRANSPORT EXCAVATION
 668 MAIN STREET EAST, CP 715
 HAWKESBURY, ON
 CA K6A 1A9
 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.

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F: