



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH50M 145181-1216
Component
Diesel Engine
Fluid
SAE 5W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0277541	LH0274807	LH0261389
Sample Date		Client Info		04 Jan 2024	29 Aug 2023	28 Apr 2023
Machine Age	hrs	Client Info		1614	1043	497
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>66	4	5	10
Chromium	ppm	ASTM D5185(m)	>4	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	0	0
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>8	1	1	3
Lead	ppm	ASTM D5185(m)	>10	2	5	6
Copper	ppm	ASTM D5185(m)	>74	45	169	110
Tin	ppm	ASTM D5185(m)	>4	<1	<1	1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

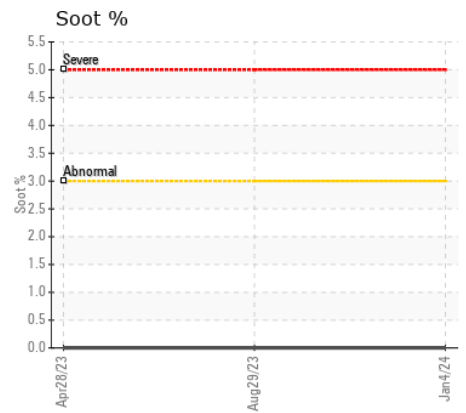
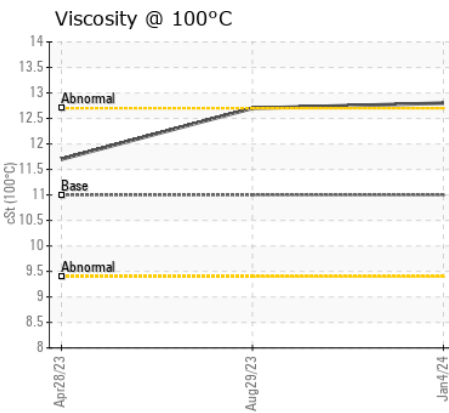
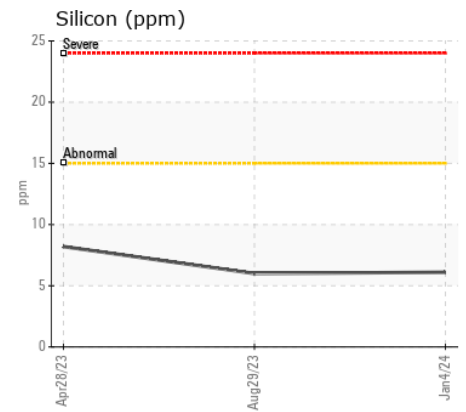
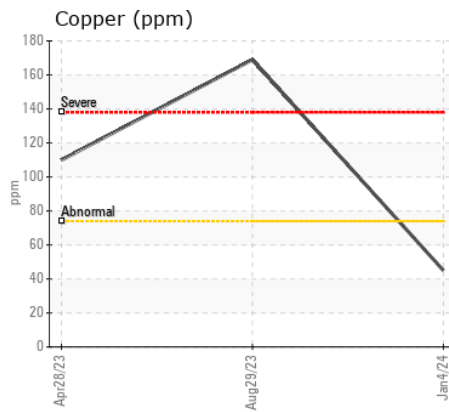
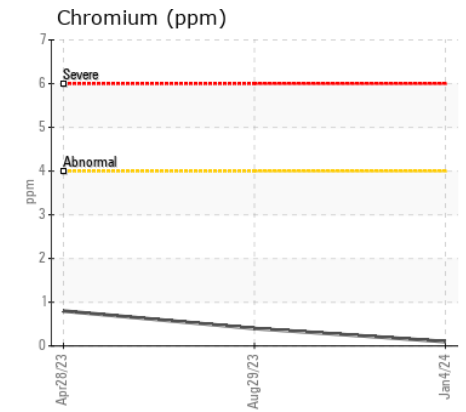
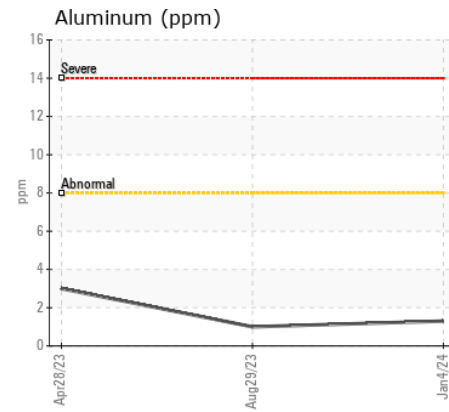
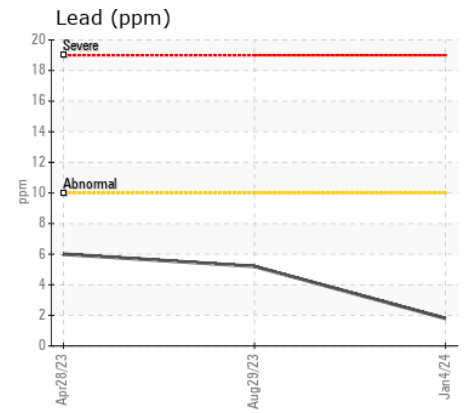
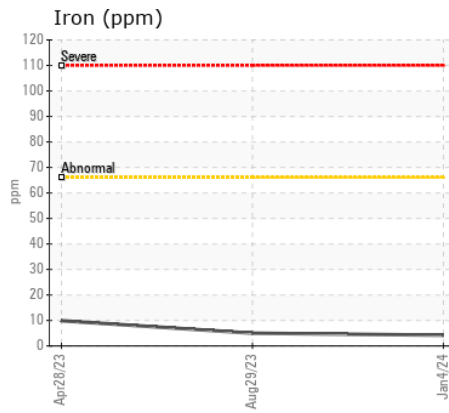
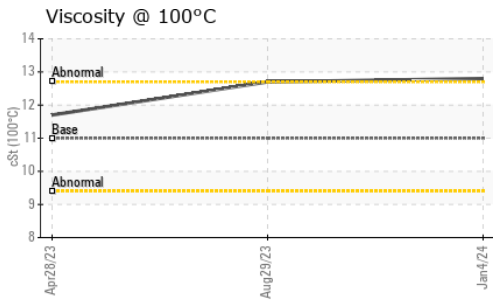
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>15	6	6	8
Potassium	ppm	ASTM D5185(m)	>20	0	<1	3
Fuel		WC Method	>5	<1.0	<1.0	1.7
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	NEG
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	8.4	8.5	12.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.1	22.2	40.3
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		1	2	2
Boron	ppm	ASTM D5185(m)		2	7	103
Barium	ppm	ASTM D5185(m)		<1	3	28
Molybdenum	ppm	ASTM D5185(m)		58	57	45
Manganese	ppm	ASTM D5185(m)		0	<1	1
Magnesium	ppm	ASTM D5185(m)		970	983	922
Calcium	ppm	ASTM D5185(m)		1067	1084	1421
Phosphorus	ppm	ASTM D5185(m)		962	1014	750
Zinc	ppm	ASTM D5185(m)		1153	1181	840
Sulfur	ppm	ASTM D5185(m)		2264	2332	1923
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.9	19.3	52.3
Visc @ 100°C	cSt	ASTM D7279(m)	11.0	12.8	12.7	11.7



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0277541 **Received** : 16 Jan 2024
Lab Number : 02608971 **Diagnosed** : 16 Jan 2024
Unique Number : 5710057 **Diagnostician** : Kevin Marson
Test Package : MOB 1

METALOGICS INC
 70 NORTH QUEEN ST.
 ETOBICOKE, ON
 CA M8Z 2C7
 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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