



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH60M 146313-1217
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0278625	LH0274788	LH0247202
Sample Date		Client Info		21 Jan 2024	05 Sep 2023	14 Jun 2023
Machine Age	hrs	Client Info		2083	1114	530
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)	>100	5	5	11
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	1
Nickel	ppm	ASTM D5185(m)	>5	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>15	2	2	4
Lead	ppm	ASTM D5185(m)	>30	<1	5	10
Copper	ppm	ASTM D5185(m)	>125	3	121	259
Tin	ppm	ASTM D5185(m)	>5	0	<1	1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	VLITE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---

CONTAMINATION

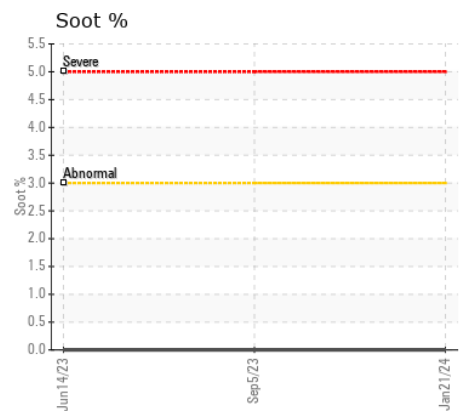
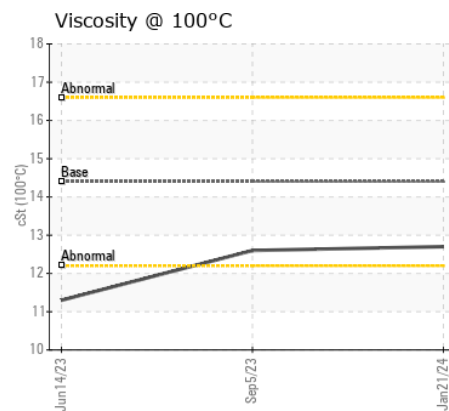
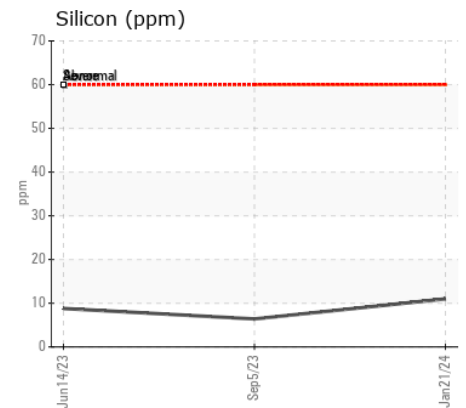
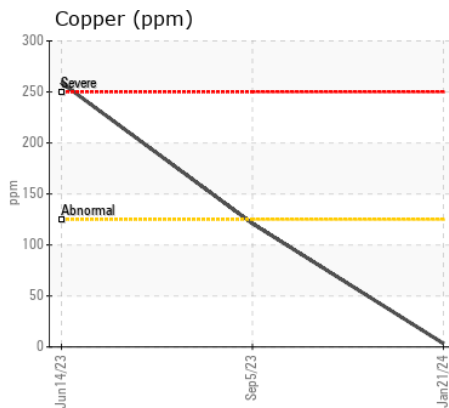
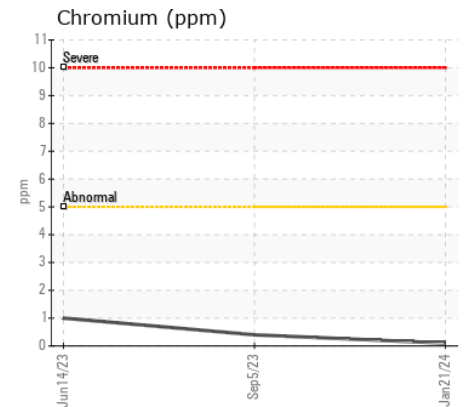
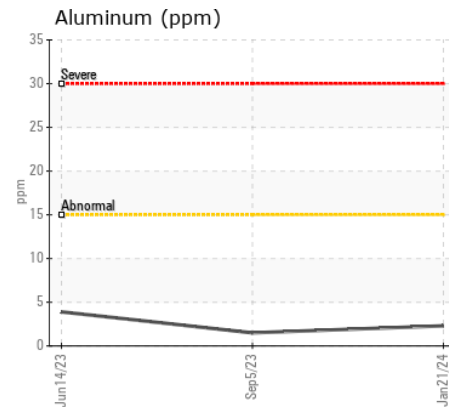
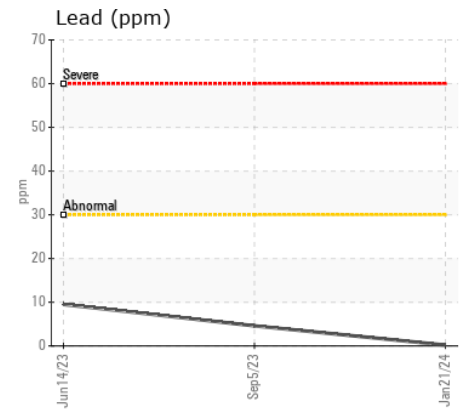
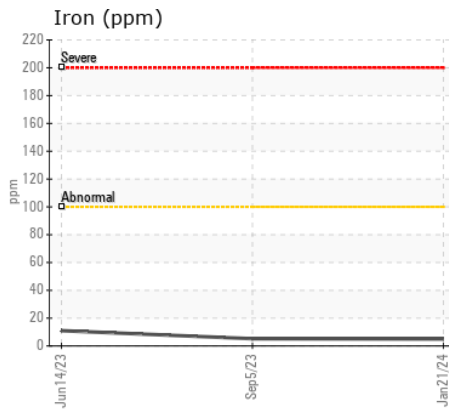
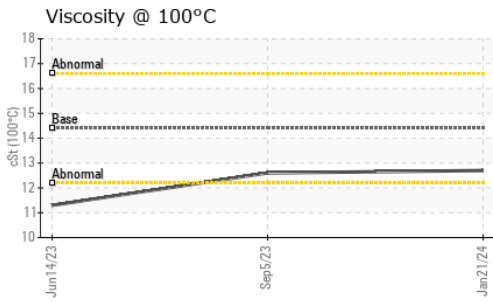
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	11	6	9
Potassium	ppm	ASTM D5185(m)	>20	3	4	6
Fuel		WC Method	>5	<1.0	<1.0	1.9
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	9.5	2.1	12.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.1	10.7	38.6
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	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 D5185(m)	>216	2	2	3
Boron	ppm	ASTM D5185(m)	250	10	6	73
Barium	ppm	ASTM D5185(m)	10	<1	3	39
Molybdenum	ppm	ASTM D5185(m)	100	51	54	38
Manganese	ppm	ASTM D5185(m)		0	<1	1
Magnesium	ppm	ASTM D5185(m)	450	918	953	884
Calcium	ppm	ASTM D5185(m)	3000	1113	1053	1445
Phosphorus	ppm	ASTM D5185(m)	1150	964	952	763
Zinc	ppm	ASTM D5185(m)	1350	1123	1114	856
Sulfur	ppm	ASTM D5185(m)	4250	2830	2196	1909
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.5	2.5	50.0
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	12.7	12.6	11.3



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0278625 **Received** : 22 Jan 2024
Lab Number : 02610242 **Diagnosed** : 23 Jan 2024
Unique Number : 5711328 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: Visual)

WENTWORTH METAL RECYCLING
 495 WENTWORTH STREET NORTH
 HAMILTON, ON
 CA L8L 5X1
 Contact: Jaason
 jaason@wentworthrecycling.com

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: