



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL



Area
(357696)
Machine Id
LIEBHERR LH50M 133969-1216
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (28 LTR)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0286532	LH0247075	LH0192750
Sample Date		Client Info		04 Mar 2024	15 Dec 2022	11 Aug 2022
Machine Age	hrs	Client Info		3503	1867	1583
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		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>66	4	4	6
Chromium	ppm	ASTM D5185(m)	>4	0	0	0
Nickel	ppm	ASTM D5185(m)	>4	0	0	0
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>8	1	1	2
Lead	ppm	ASTM D5185(m)	>10	<1	<1	2
Copper	ppm	ASTM D5185(m)	>74	2	9	38
Tin	ppm	ASTM D5185(m)	>4	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

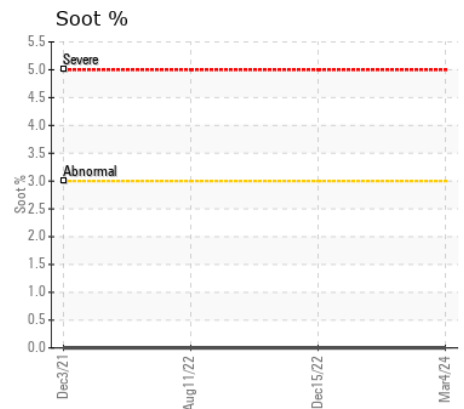
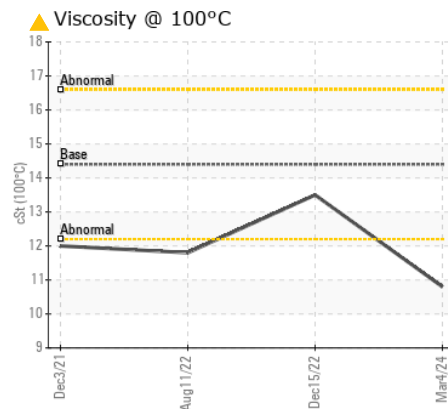
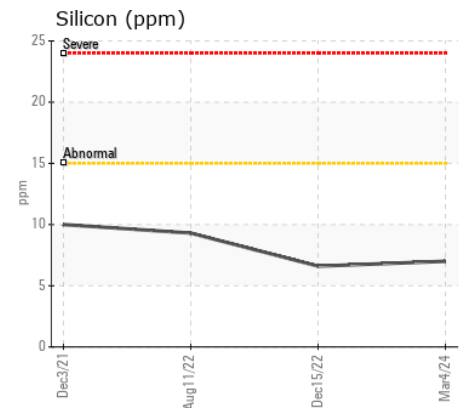
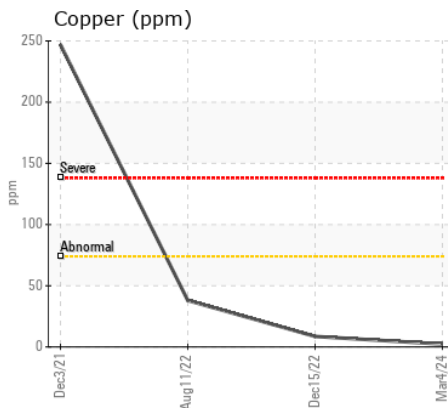
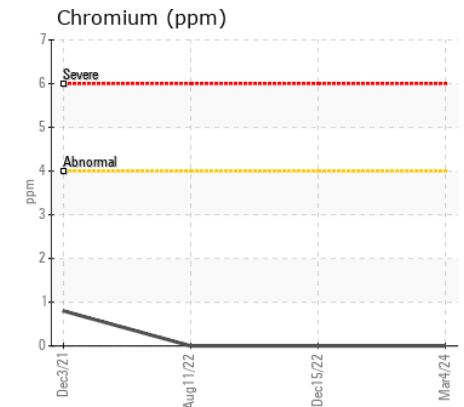
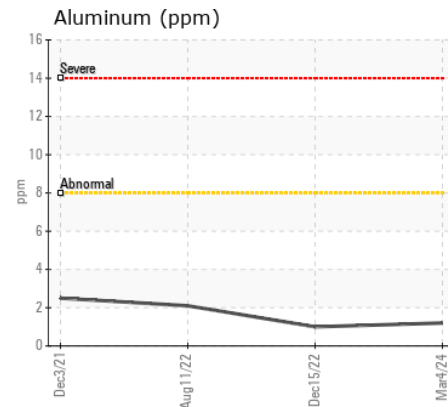
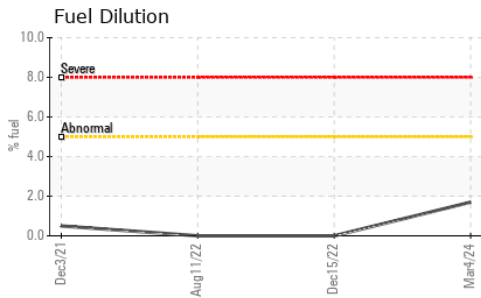
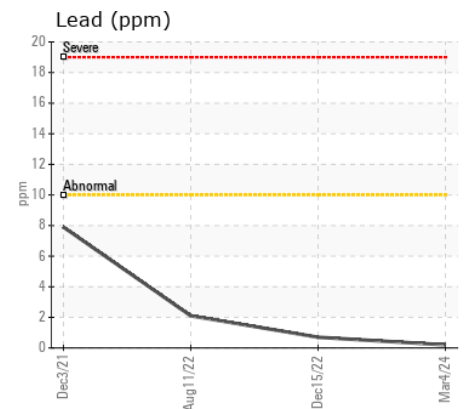
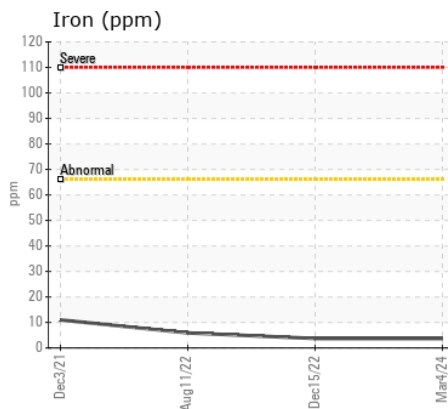
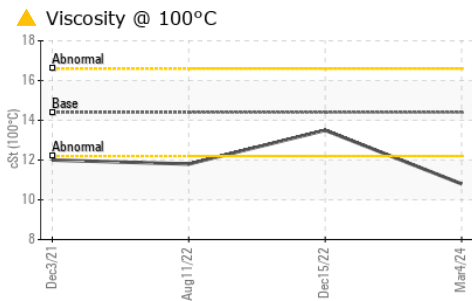
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185(m)	>15	7	7	9
Potassium	ppm	ASTM D5185(m)	>20	<1	0	1
Fuel	%	ASTM D7593*	>5	1.7	<1.0	<1.0
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	7.9	7.1	9.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.9	20.5	22.2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>216	1	2	2
Boron	ppm	ASTM D5185(m)	250	8	7	67
Barium	ppm	ASTM D5185(m)	10	0	<1	2
Molybdenum	ppm	ASTM D5185(m)	100	62	65	125
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	993	950	947
Calcium	ppm	ASTM D5185(m)	3000	1106	1108	1173
Phosphorus	ppm	ASTM D5185(m)	1150	1076	1075	999
Zinc	ppm	ASTM D5185(m)	1350	1232	1180	1175
Sulfur	ppm	ASTM D5185(m)	4250	2905	2654	2652
Oxidation	Abs/.1mm	ASTM D7414*	>25	15.7	16.2	20.3
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ 10.8	13.5	11.8



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0286532 **Received** : 07 Mar 2024
Lab Number : 02620416 **Tested** : 08 Mar 2024
Unique Number : 5737526 **Diagnosed** : 08 Mar 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

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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