



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL



Machine Id
LIEBHERR LH50M 123311-1216
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

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		LH0289498	LH0285034	LH0277528
Sample Date		Client Info		25 Apr 2024	29 Jan 2024	27 Nov 2023
Machine Age	hrs	Client Info		8175	0	7310
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	3	2	3
Chromium	ppm	ASTM D5185(m)	>5	0	0	0
Nickel	ppm	ASTM D5185(m)	>5	0	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>15	1	1	<1
Lead	ppm	ASTM D5185(m)	>30	0	<1	1
Copper	ppm	ASTM D5185(m)	>125	2	2	3
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

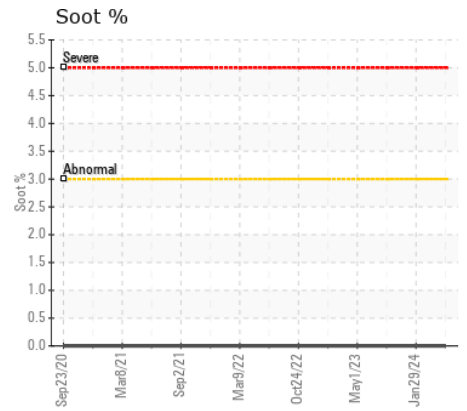
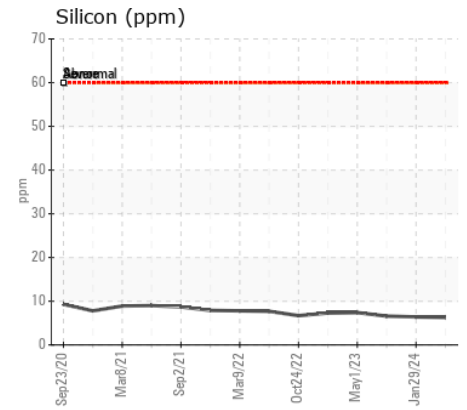
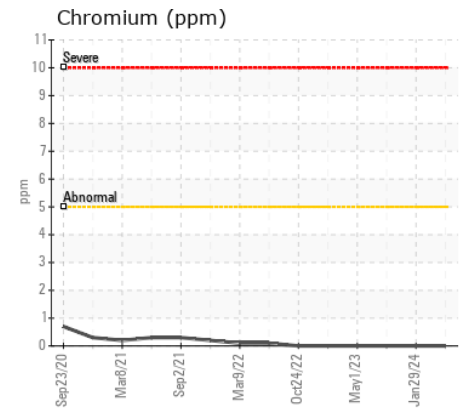
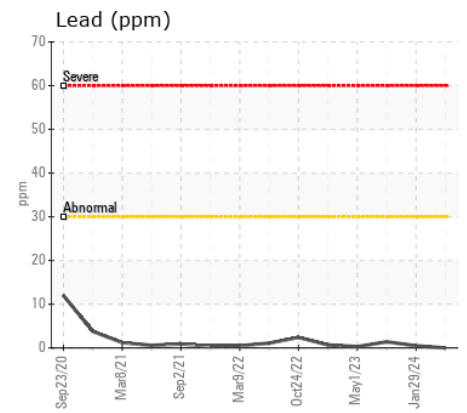
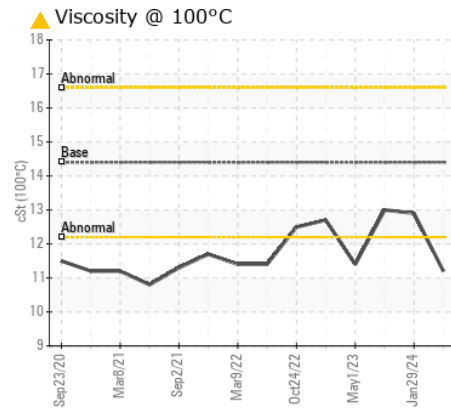
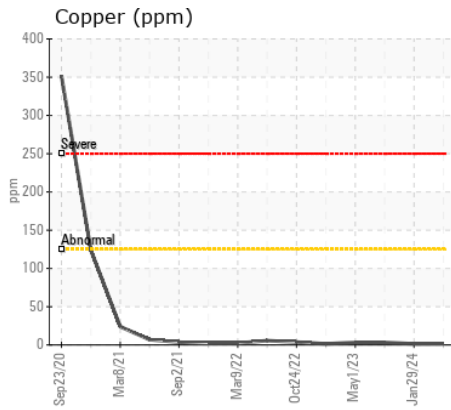
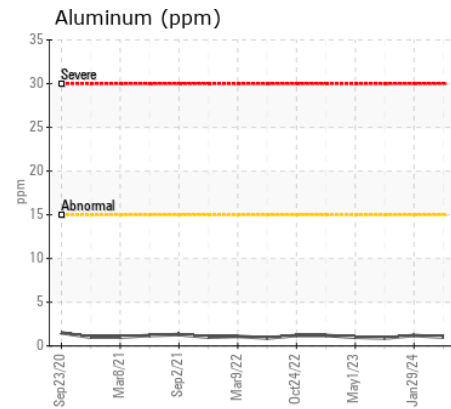
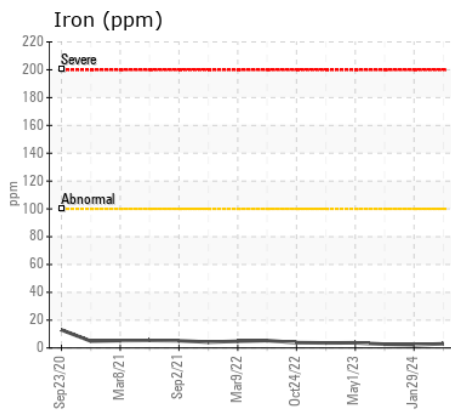
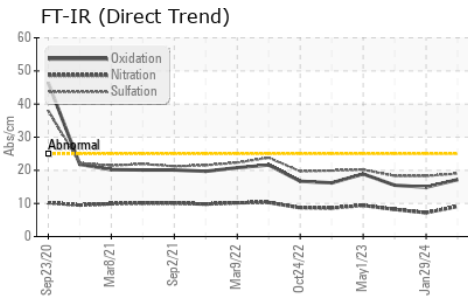
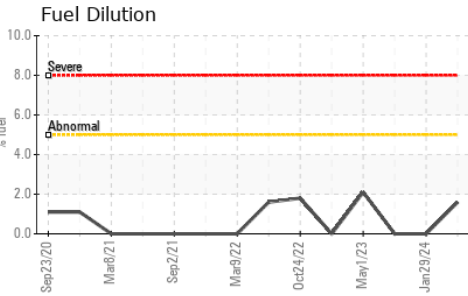
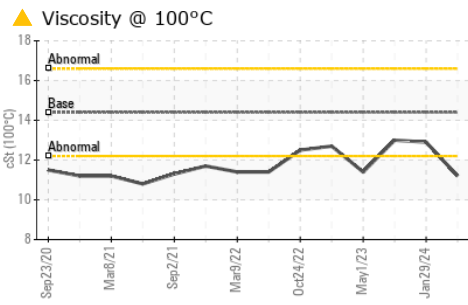
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185(m)	>60	6	6	7
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	0
Fuel	%	ASTM D7593*	>5	1.6	<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	9.1	7.2	8.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.0	18.3	18.3
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	3	1	2
Boron	ppm	ASTM D5185(m)	250	30	5	1
Barium	ppm	ASTM D5185(m)	10	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	100	53	56	58
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	450	1038	937	965
Calcium	ppm	ASTM D5185(m)	3000	798	1096	1040
Phosphorus	ppm	ASTM D5185(m)	1150	943	969	994
Zinc	ppm	ASTM D5185(m)	1350	1125	1163	1182
Sulfur	ppm	ASTM D5185(m)	4250	2594	2764	2502
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.2	14.9	15.5
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ 11.2	12.9	13.0



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

Sample No. : LH0289498

Lab Number : 02631568

Unique Number : 5772721

Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

Received : 26 Apr 2024

Tested : 29 Apr 2024

Diagnosed : 29 Apr 2024 - Kevin Marson

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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.