LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LIEBHERR 60935
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 10W30 (40 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

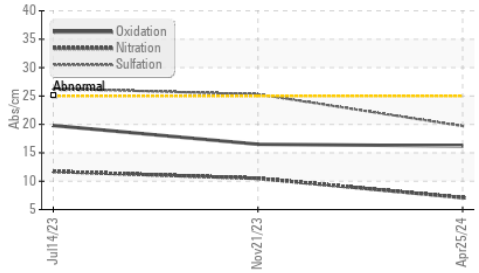
There is no indication of any contamination in the oil.

FLUID CONDITION

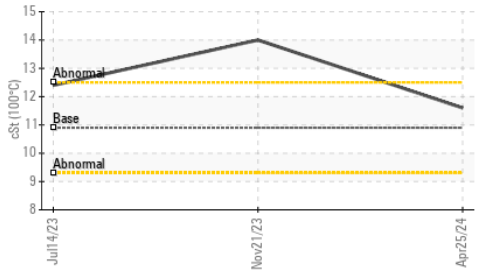
The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0281289	LH0276869	LH0265616
Sample Date		Client Info		25 Apr 2024	21 Nov 2023	14 Jul 2023
Machine Age	hrs	Client Info		16143	15692	15202
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	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>100	6	36	47
Chromium	ppm	ASTM D5185(m)	>5	0	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	0	0	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	2	5
Copper	ppm	ASTM D5185(m)	>125	4	36	89
Tin	ppm	ASTM D5185(m)	>5	0	3	3
Vanadium	ppm	ASTM D5185(m)		0	0	0
Silicon	ppm	ASTM D5185(m)	>60	5	6	8
Potassium	ppm	ASTM D5185(m)	>20	0	0	1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.4	▲ 3	2.2
Nitration	Abs/cm	ASTM D7624*	>20	7.1	10.5	11.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.7	25.3	26.3
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Sodium	ppm	ASTM D5185(m)		4	6	14
Boron	ppm	ASTM D5185(m)	250	52	4	20
Barium	ppm	ASTM D5185(m)	10	0	2	6
Molybdenum	ppm	ASTM D5185(m)	100	58	62	63
Manganese	ppm	ASTM D5185(m)		0	<1	1
Magnesium	ppm	ASTM D5185(m)	450	1143	● 985	930
Calcium	ppm	ASTM D5185(m)	3000	867	1128	1217
Phosphorus	ppm	ASTM D5185(m)	1150	1047	● 997	1080
Zinc	ppm	ASTM D5185(m)	1350	1221	● 1222	1213
Sulfur	ppm	ASTM D5185(m)	4250	2890	2411	2606
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.2	16.5	19.8
Visc @ 40°C	cSt	ASTM D7279(m)	73	68.9	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	11.6	▲ 14.0	12.4
Viscosity Index (VI)	Scale	ASTM D2270*	138	163	---	---

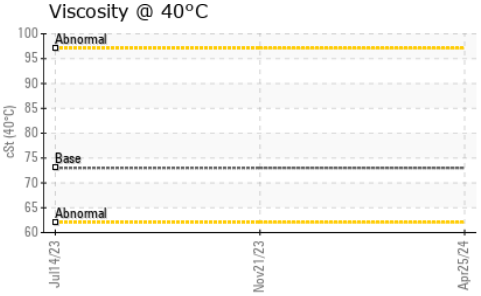
FT-IR (Direct Trend)



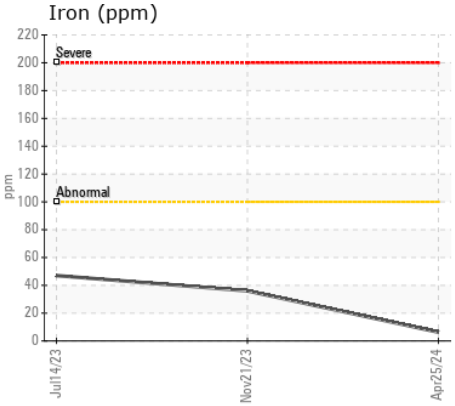
Viscosity @ 100°C



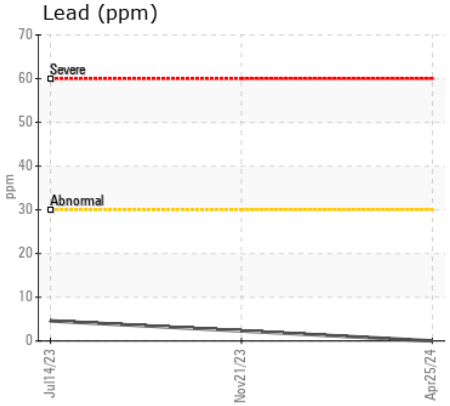
Viscosity @ 40°C



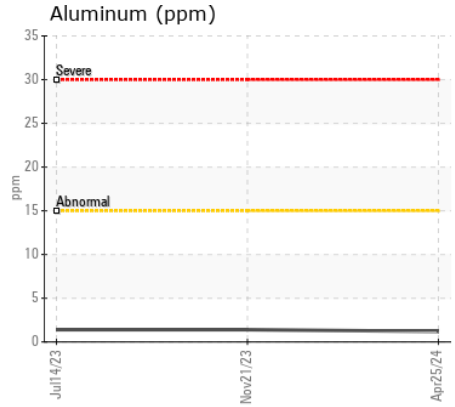
Iron (ppm)



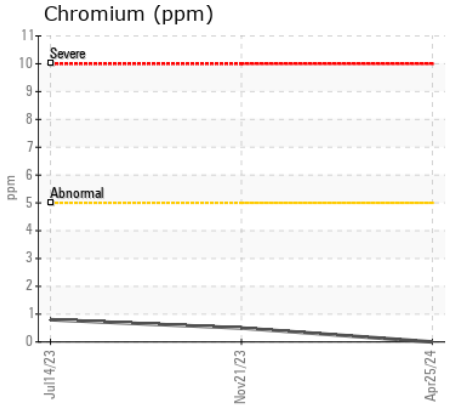
Lead (ppm)



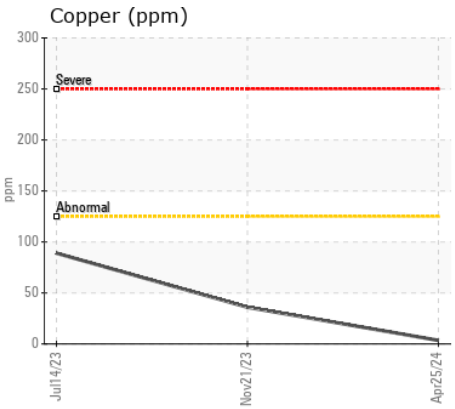
Aluminum (ppm)



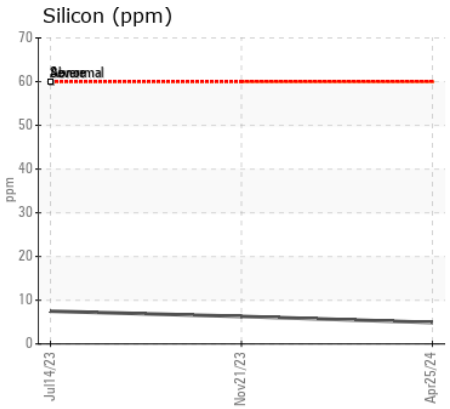
Chromium (ppm)



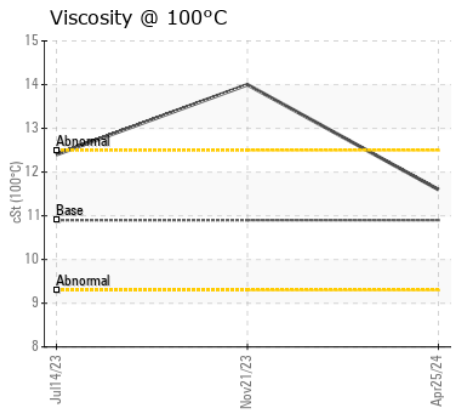
Copper (ppm)



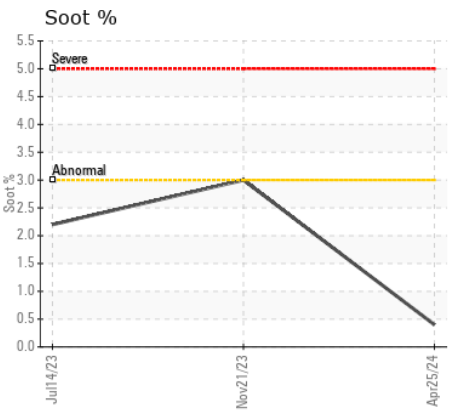
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0281289
Lab Number : 02634041
Unique Number : 5775194
Test Package : MOB 1 (Additional Tests: KV40, VI)

Received : 08 May 2024
Tested : 08 May 2024
Diagnosed : 08 May 2024 - Kevin Marson

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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