



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
(354194)
Machine Id
LIEBHERR LH40C 132159-1527
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0209422	LH0209421	LH0209420
Sample Date		Client Info		16 Jan 2024	08 Nov 2023	18 Sep 2023
Machine Age	hrs	Client Info		4865	500	250
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Filter Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	2	3	2
Chromium	ppm	ASTM D5185(m)	>5	0	0	0
Nickel	ppm	ASTM D5185(m)	>5	<1	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	1	2	1
Lead	ppm	ASTM D5185(m)	>30	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>125	<1	1	<1
Tin	ppm	ASTM D5185(m)	>5	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	---	NONE

CONTAMINATION

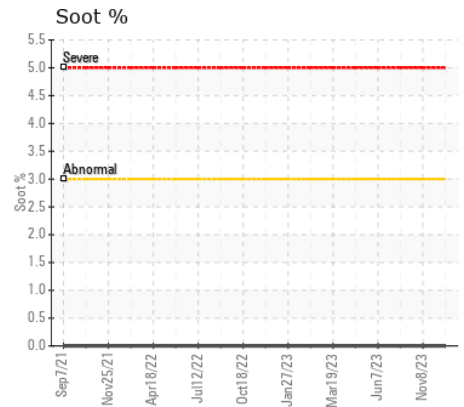
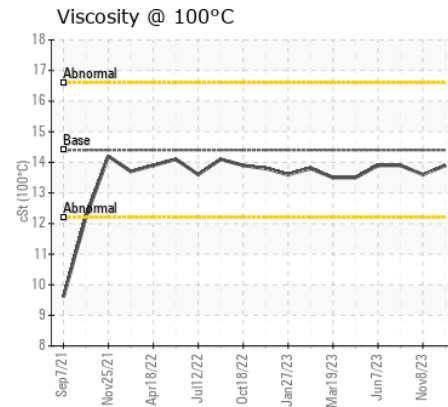
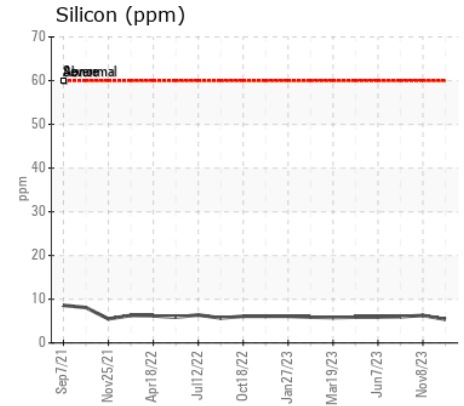
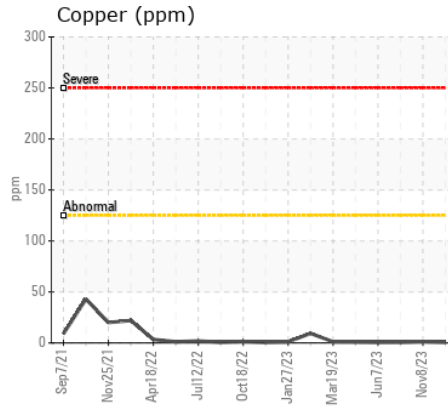
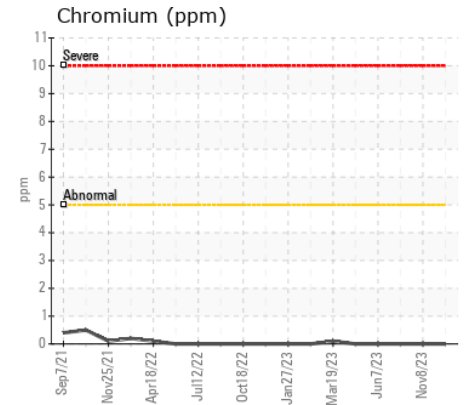
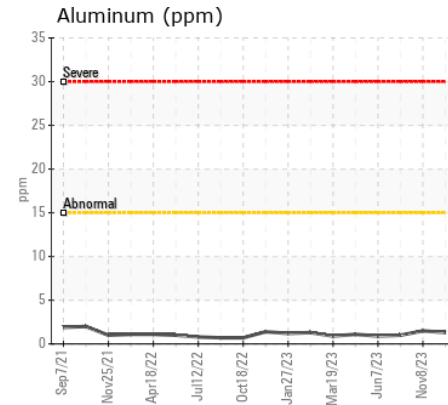
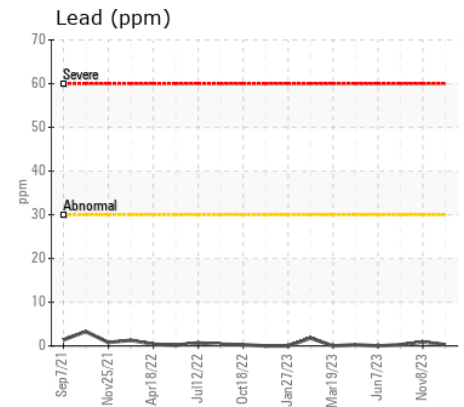
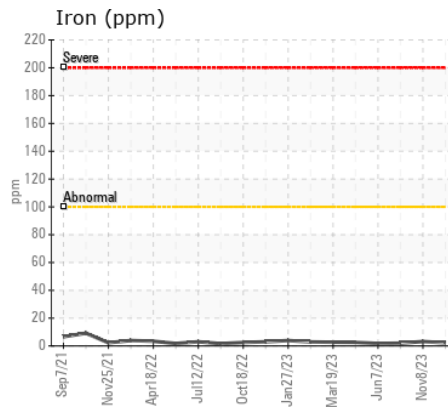
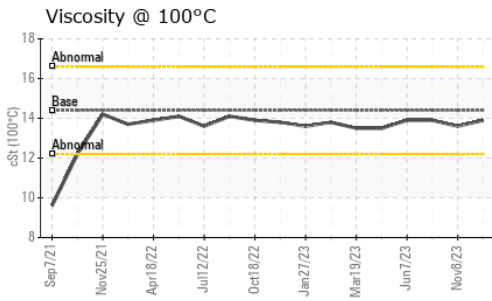
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	5	6	6
Potassium	ppm	ASTM D5185(m)	>20	<1	2	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	0	0
Nitration	Abs/cm	ASTM D7624*	>20	5.8	6.5	5.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.4	18.8	18.0
Silt	scalar	Visual*	NONE	NONE	---	NONE
Debris	scalar	Visual*	NONE	VLITE	---	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)	>158	1	10	1
Boron	ppm	ASTM D5185(m)	250	1	2	2
Barium	ppm	ASTM D5185(m)	10	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	100	57	57	57
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	450	930	930	939
Calcium	ppm	ASTM D5185(m)	3000	1076	1082	1084
Phosphorus	ppm	ASTM D5185(m)	1150	996	1007	1069
Zinc	ppm	ASTM D5185(m)	1350	1158	1188	1184
Sulfur	ppm	ASTM D5185(m)	4250	2716	2577	2648
Oxidation	Abs/.1mm	ASTM D7414*	>25	14.0	14.8	13.5
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	13.9	13.6	13.9



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0209422 **Received** : 19 Jan 2024
Lab Number : 02609909 **Diagnosed** : 19 Jan 2024
Unique Number : 5710995 **Diagnostician** : Wes Davis
Test Package : MOBCE (Additional Tests: Visual)

National Salvage Ltd.
 206-33 Street N
 Lethbridge, AB
 CA T1H 3Z5
 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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