



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
(353691)
Machine Id
LIEBHERR R945 052997-1866
Component
Diesel Engine
Fluid
SAE 5W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0284412	---	---
Sample Date		Client Info		14 Feb 2024	---	---
Machine Age	hrs	Client Info		1167	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	6	---	---
Chromium	ppm	ASTM D5185(m)	>5	<1	---	---
Nickel	ppm	ASTM D5185(m)	>5	<1	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)	>3	0	---	---
Aluminum	ppm	ASTM D5185(m)	>15	2	---	---
Lead	ppm	ASTM D5185(m)	>30	1	---	---
Copper	ppm	ASTM D5185(m)	>125	25	---	---
Tin	ppm	ASTM D5185(m)	>5	<1	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

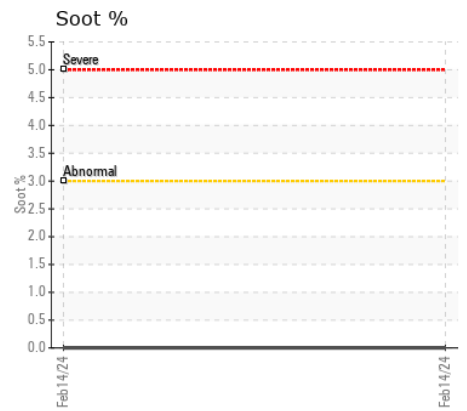
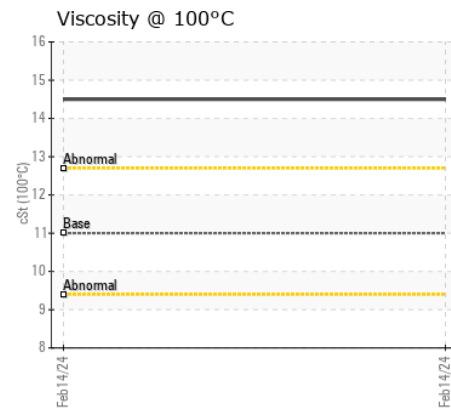
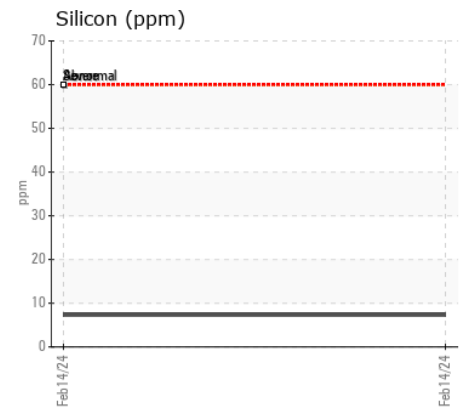
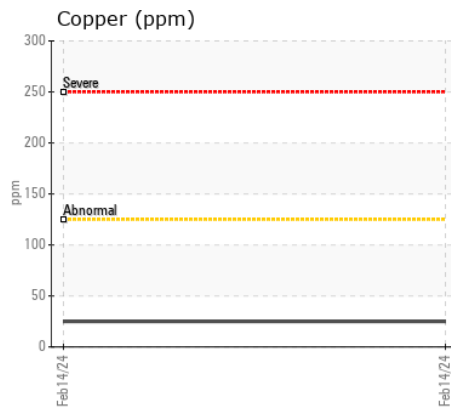
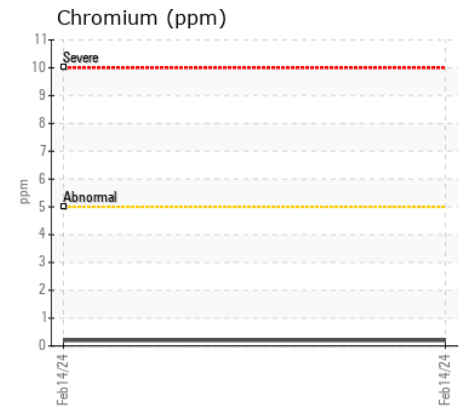
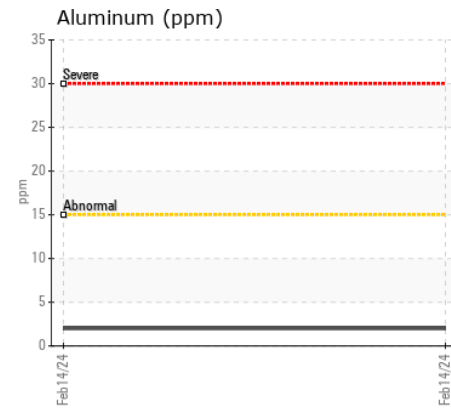
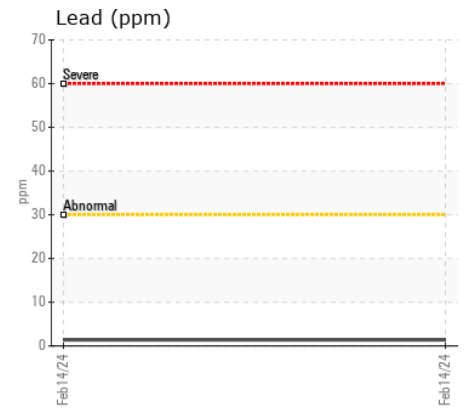
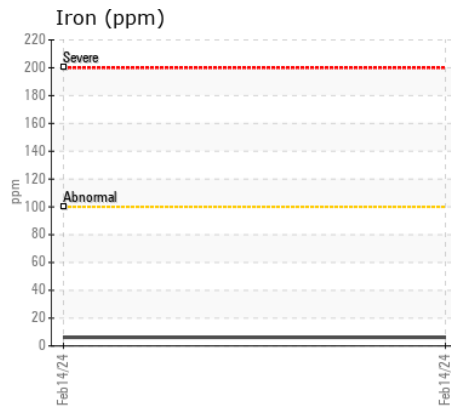
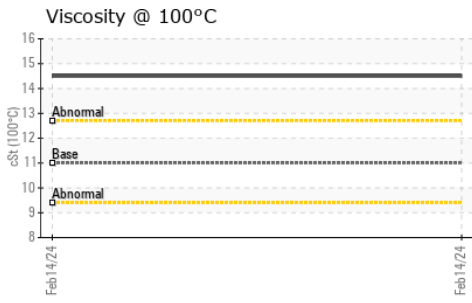
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>60	7	---	---
Potassium	ppm	ASTM D5185(m)	>20	4	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	ASTM D7844*	>3	0	---	---
Nitration	Abs/cm	ASTM D7624*	>20	8.2	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	23.1	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.2	NEG	---	---

FLUID CONDITION

Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		2	---	---
Boron	ppm	ASTM D5185(m)		132	---	---
Barium	ppm	ASTM D5185(m)		3	---	---
Molybdenum	ppm	ASTM D5185(m)		6	---	---
Manganese	ppm	ASTM D5185(m)		0	---	---
Magnesium	ppm	ASTM D5185(m)		178	---	---
Calcium	ppm	ASTM D5185(m)		1900	---	---
Phosphorus	ppm	ASTM D5185(m)		877	---	---
Zinc	ppm	ASTM D5185(m)		1032	---	---
Sulfur	ppm	ASTM D5185(m)		2733	---	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	20.7	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	11.0	14.5	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0284412
Lab Number : 02616594
Unique Number : 5733704
Test Package : MOB 1 (Additional Tests: Visual)

EXCAVATION RAYMOND BOUCHARD INC.
 222 DE L'INDUSTRIE
 ST-LIN DES LAURENTIDES, QC
 CA J5M 0A3
 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.

T:
F: