



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area
(353691)
Machine Id
LIEBHERR R945 052997-1866
Component
Swing Drive
Fluid
GEAR OIL SAE 80W90 (--- GAL)

RECOMMENDATION

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 80W90. Please confirm.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0284411	---	---
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				ABNORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>750	433	---	---
Chromium	ppm	ASTM D5185(m)	>10	7	---	---
Nickel	ppm	ASTM D5185(m)	>5	<1	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>20	<1	---	---
Lead	ppm	ASTM D5185(m)	>5	<1	---	---
Copper	ppm	ASTM D5185(m)	>250	<1	---	---
Tin	ppm	ASTM D5185(m)	>10	0	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

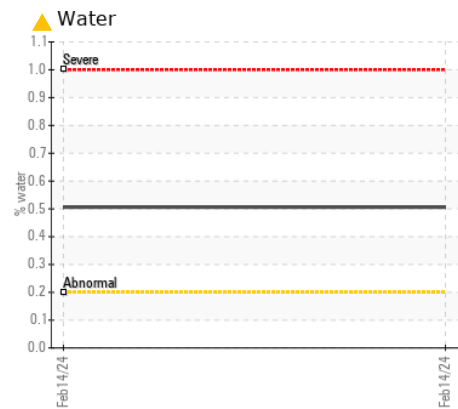
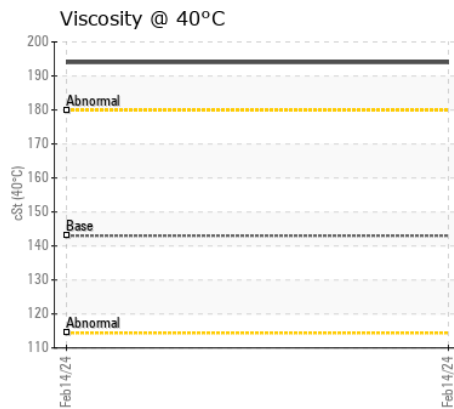
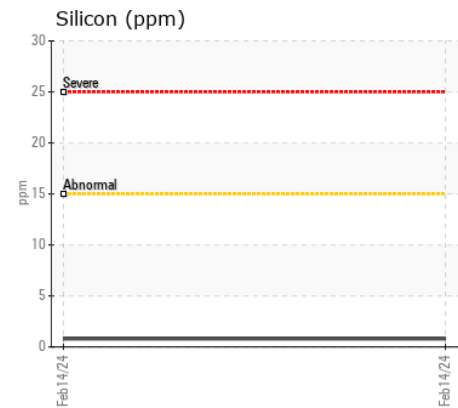
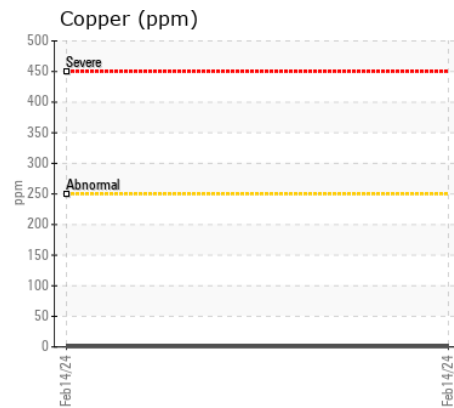
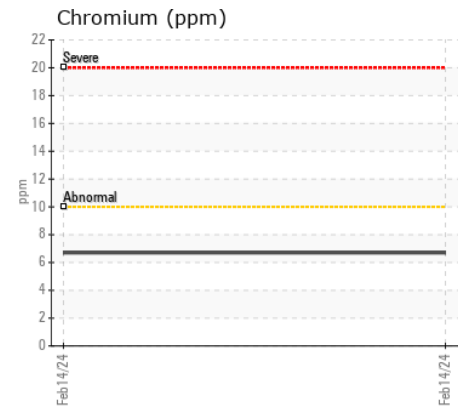
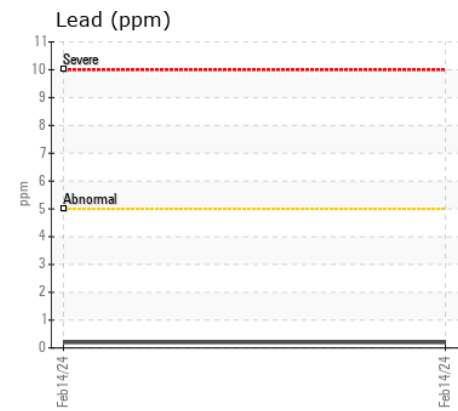
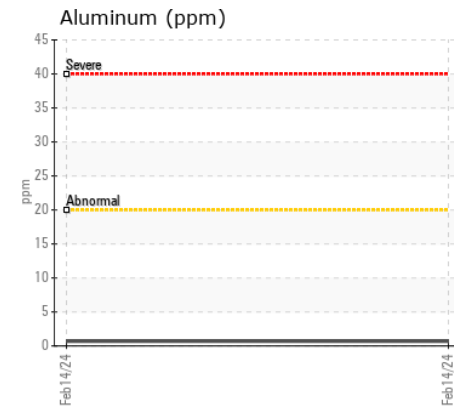
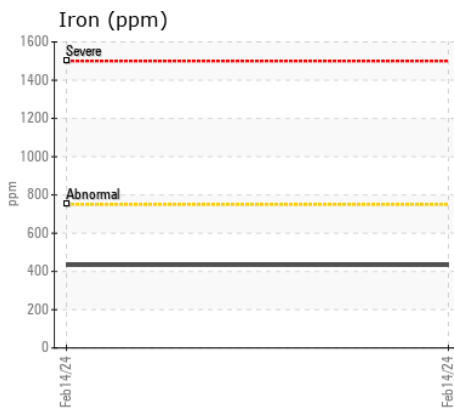
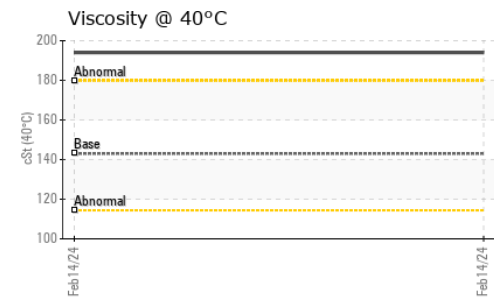
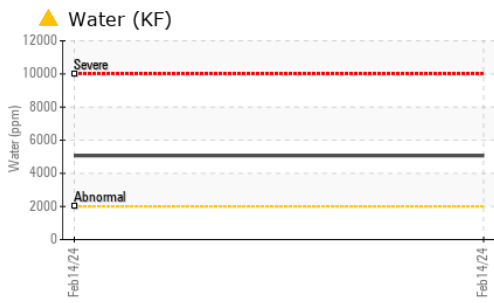
There is a moderate concentration of water present in the oil.

Silicon	ppm	ASTM D5185(m)	>15	<1	---	---
Potassium	ppm	ASTM D5185(m)	>20	2	---	---
Water	%	ASTM D6304*	>0.2	▲ 0.506	---	---
ppm Water	ppm	ASTM D6304*	>2000	▲ 5065	---	---
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	▲ .5%	---	---

FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)	>170	3	---	---
Boron	ppm	ASTM D5185(m)	400	2	---	---
Barium	ppm	ASTM D5185(m)	200	12	---	---
Molybdenum	ppm	ASTM D5185(m)	12	0	---	---
Manganese	ppm	ASTM D5185(m)		5	---	---
Magnesium	ppm	ASTM D5185(m)	12	<1	---	---
Calcium	ppm	ASTM D5185(m)	150	43	---	---
Phosphorus	ppm	ASTM D5185(m)	1650	1439	---	---
Zinc	ppm	ASTM D5185(m)	125	22	---	---
Sulfur	ppm	ASTM D5185(m)	22500	25192	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	143	194	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0284411 **Received** : 20 Feb 2024
Lab Number : 02616782 **Tested** : 21 Feb 2024
Unique Number : 5733892 **Diagnosed** : 21 Feb 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: KF)

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: