



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR LH50 14791

Component
Swing Drive

Fluid
CHEVRON DELO GEAR ESI OIL 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.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0180269	LH0180127	LH0269532
Sample Date		Client Info		09 Jan 2024	27 Dec 2023	10 Oct 2023
Machine Age	hrs	Client Info		16000	22000	21000
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				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>1450	213	92	73
Chromium	ppm	ASTM D5185(m)	>11	2	<1	<1
Nickel	ppm	ASTM D5185(m)	>3	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	0	<1
Aluminum	ppm	ASTM D5185(m)	>4	<1	1	<1
Lead	ppm	ASTM D5185(m)	>4	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>542	12	33	21
Tin	ppm	ASTM D5185(m)	>38	<1	3	2
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

CONTAMINATION

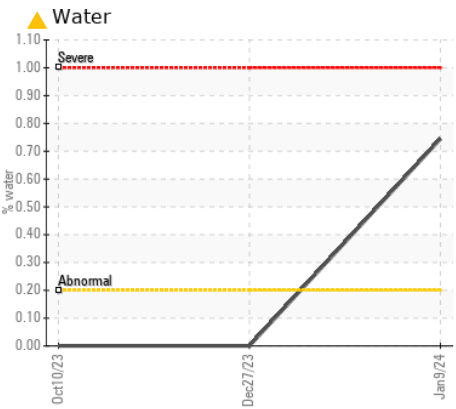
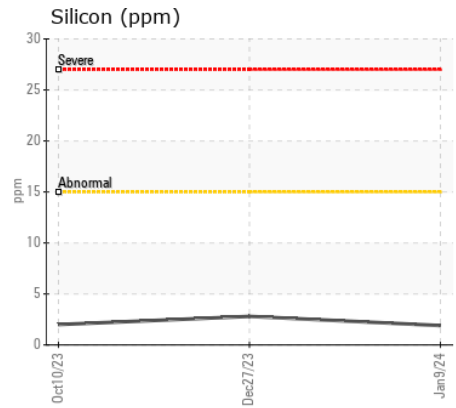
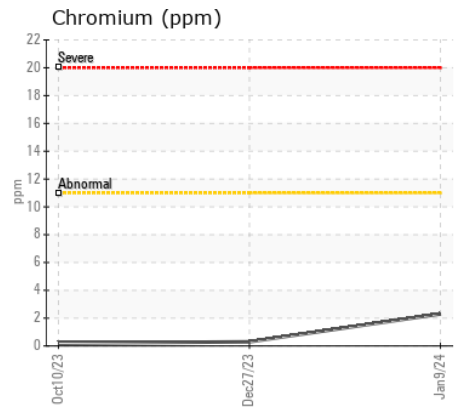
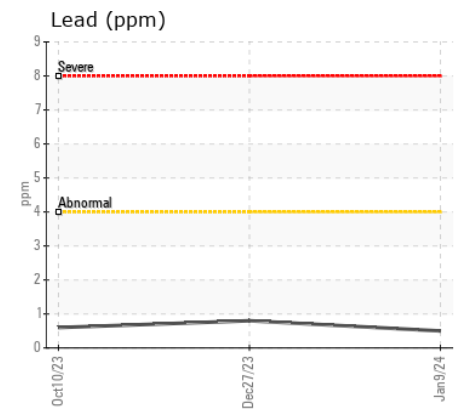
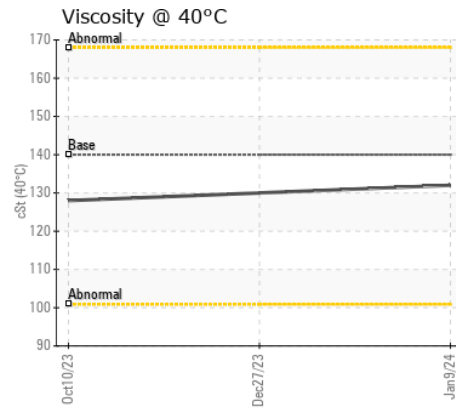
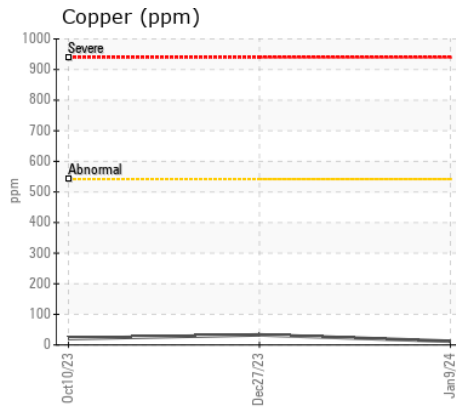
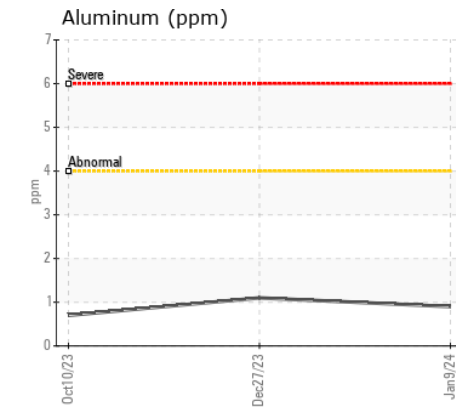
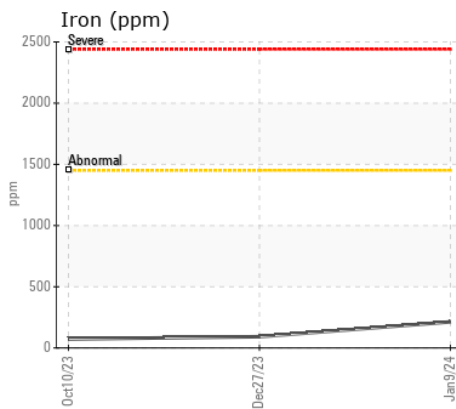
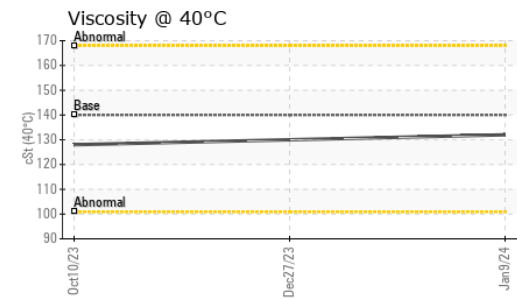
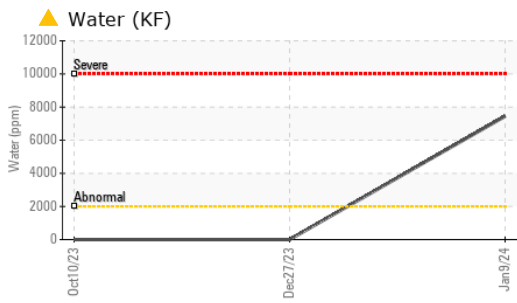
There is a moderate concentration of water present in the oil.

Silicon	ppm	ASTM D5185(m)	>15	2	3	2
Potassium	ppm	ASTM D5185(m)	>20	2	1	1
Water	%	ASTM D6304*	>0.2	▲ 0.744	---	---
ppm Water	ppm	ASTM D6304*	>2000	▲ 7450	---	---
Silt	scalar	Visual*	NONE	NONE	LIGHT	VLITE
Debris	scalar	Visual*	NONE	VLITE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	▲ .2%	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		7	<1	1
Boron	ppm	ASTM D5185(m)	15	256	290	309
Barium	ppm	ASTM D5185(m)	0	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	0	4	3	6
Manganese	ppm	ASTM D5185(m)		1	<1	0
Magnesium	ppm	ASTM D5185(m)	0	5	5	3
Calcium	ppm	ASTM D5185(m)	5	21	22	15
Phosphorus	ppm	ASTM D5185(m)	600	1685	1655	1687
Zinc	ppm	ASTM D5185(m)	0	17	14	11
Sulfur	ppm	ASTM D5185(m)	22000	19225	18736	19144
Visc @ 40°C	cSt	ASTM D7279(m)	140	132	130	128



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0180269 **Received** : 15 Jan 2024
Lab Number : 02608785 **Diagnosed** : 16 Jan 2024
Unique Number : 5709871 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: KF)

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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