



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL



Machine Id
LIEBHERR L556 045906-1484
Component
Transmission (Manual)
Fluid
LIEBHERR GEAR MF 80W (--- GAL)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as LIEBHERR GEAR MF 80W, however, a fluid match indicates that this fluid is SAE 70W80 Tractor TDH Fluid. Please confirm the fluid type and grade on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0287995	LH0250542	LH0246907
Sample Date		Client Info		26 Mar 2024	12 Sep 2023	22 Dec 2022
Machine Age	hrs	Client Info		15268	14240	12792
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Not Chngd
Filter Changed		Client Info		N/A	N/A	Not Chngd
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>200	21	19	25
Chromium	ppm	ASTM D5185(m)	>5	0	0	0
Nickel	ppm	ASTM D5185(m)	>5	1	3	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>7	0	<1	2
Aluminum	ppm	ASTM D5185(m)	>25	1	1	1
Lead	ppm	ASTM D5185(m)	>45	0	<1	0
Copper	ppm	ASTM D5185(m)	>225	<1	1	1
Tin	ppm	ASTM D5185(m)	>10	0	0	0
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 no indication of any contamination in the fluid.

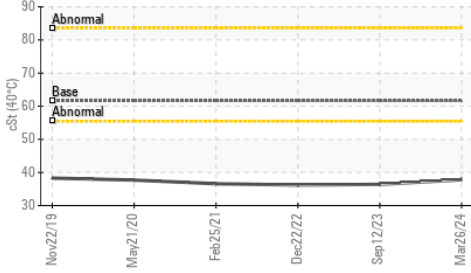
Silicon	ppm	ASTM D5185(m)	>125	7	9	8
Potassium	ppm	ASTM D5185(m)	>20	<1	2	1
Water		WC Method	>0.1	NEG	NEG	NEG
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG

FLUID CONDITION

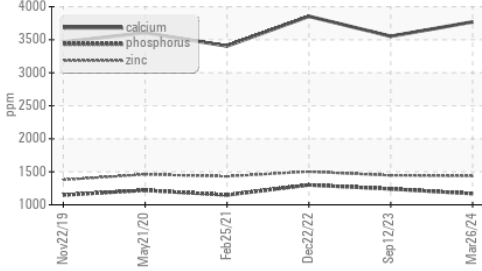
Viscosity of sample indicates oil is within SAE 70W80 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the fluid is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		2	5	7
Boron	ppm	ASTM D5185(m)		109	99	106
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		0	<1	<1
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)		14	16	19
Calcium	ppm	ASTM D5185(m)		3770	3552	3855
Phosphorus	ppm	ASTM D5185(m)		1169	1241	1301
Zinc	ppm	ASTM D5185(m)		1433	1445	1502
Sulfur	ppm	ASTM D5185(m)		3301	3162	3061
Visc @ 40°C	cSt	ASTM D7279(m)	61.6	▲ 37.8	▲ 36.4	36.2

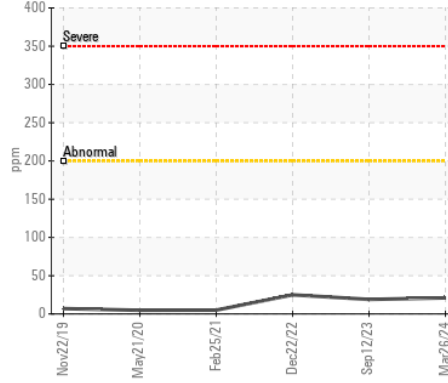
▲ Viscosity @ 40°C



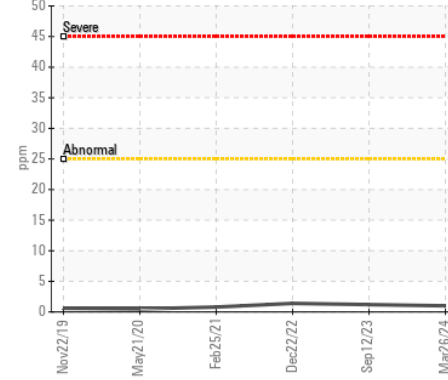
Additives



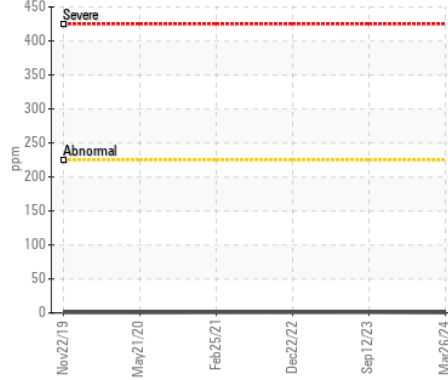
Iron (ppm)



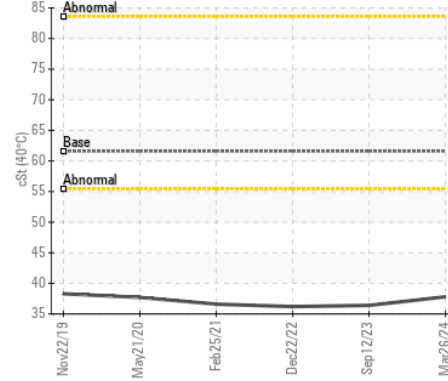
Aluminum (ppm)



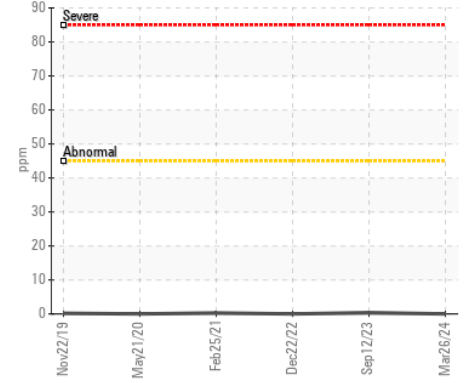
Copper (ppm)



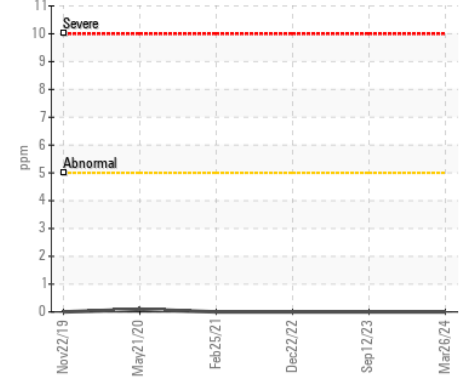
▲ Viscosity @ 40°C



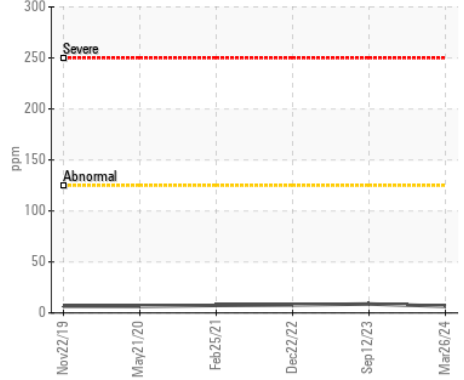
Lead (ppm)



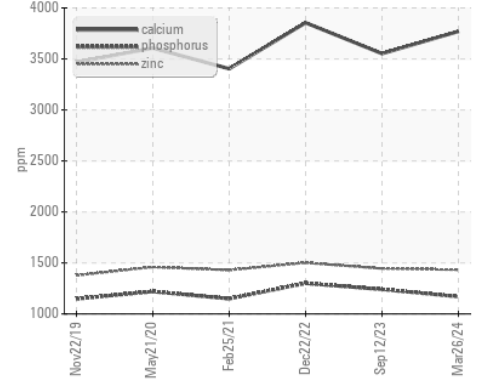
Chromium (ppm)



Silicon (ppm)



Additives



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

Sample No. : LH0287995

Lab Number : 02626724

Unique Number : 5759856

Test Package : MOB 1

Received : 04 Apr 2024

Tested : 04 Apr 2024

Diagnosed : 04 Apr 2024 - Kevin Marson

ECOWASTE INDUSTRIES LTD.

15111 WILLIAMS ROAD

RICHMOND, BC

CA V6W 1G9

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: (604)277-1410

F: