



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR L556 055637-1332
Component
Front Left Wheel Hub
Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0264455	LH0220844	LH0207968
Sample Date		Client Info		12 Mar 2024	27 Sep 2022	27 Feb 2022
Machine Age	hrs	Client Info		6581	3494	2433
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>500	92	60	64
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>5	1	0	<1
Lead	ppm	ASTM D5185m	>5	0	0	0
Copper	ppm	ASTM D5185m	>50	15	12	17
Tin	ppm	ASTM D5185m		0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	MODER	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

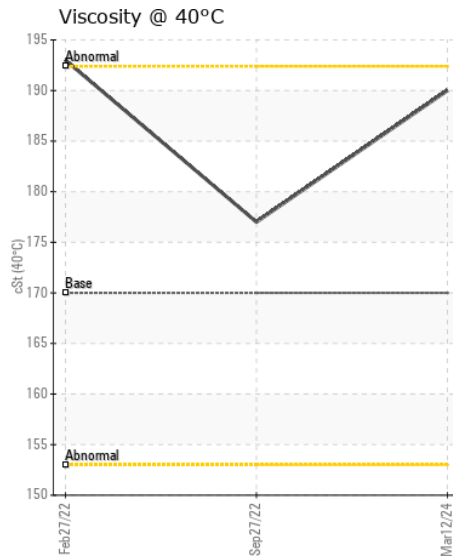
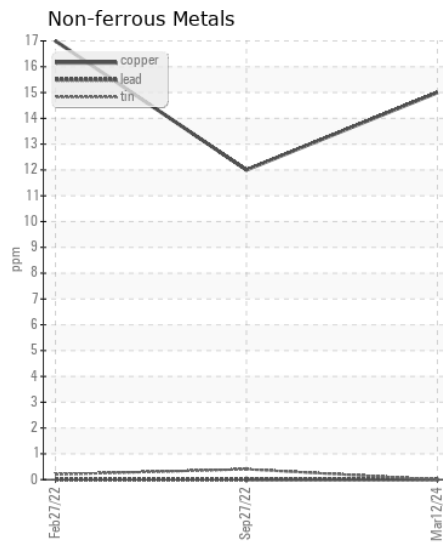
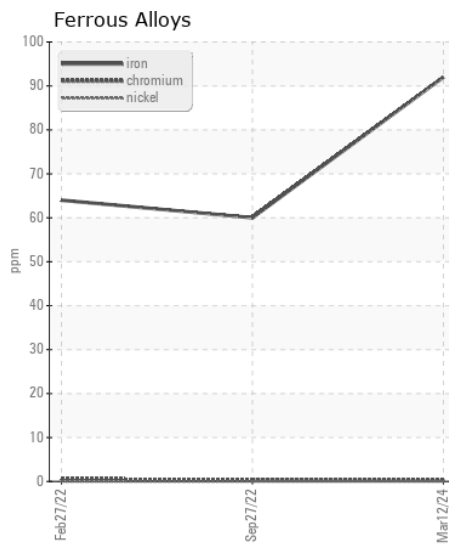
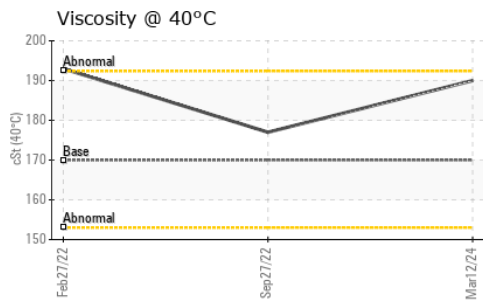
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	2	3
Potassium	ppm	ASTM D5185m	>20	2	<1	0
Water		WC Method	>0.2	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	LIGHT	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	VLITE
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	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<1	<1	3
Boron	ppm	ASTM D5185m	0	0	2	3
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	0	22	11	20
Manganese	ppm	ASTM D5185m	0	3	3	5
Magnesium	ppm	ASTM D5185m	<1	2	<1	0
Calcium	ppm	ASTM D5185m	<1	8	11	5
Phosphorus	ppm	ASTM D5185m	2143	2544	2279	2434
Zinc	ppm	ASTM D5185m	<1	13	10	13
Sulfur	ppm	ASTM D5185m	23468	31103	40366	24498
Visc @ 40°C	cSt	ASTM D445	170	190	177	193



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0264455
Lab Number : 06151371
Unique Number : 10981449
Test Package : CONST

Received : 16 Apr 2024
Tested : 18 Apr 2024
Diagnosed : 18 Apr 2024 - Wes Davis

INTERSTATE POWER SYSTEMS
 407 ADVENTURLAND DR NE
 ALTOONA, IA
 US 50009
 Contact: DALTON JOHNSON
 dalton.johnson@istate.com
 T: (515)957-3300
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)