



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
LIEBHERR L556 055637-1332
Component
Hydraulic System
Fluid
LIEBHERR HYDRAULIC HVI (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0264452	LH0220841	LH0207969
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		Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	6	17	16
Chromium	ppm	ASTM D5185m	>10	2	4	3
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	0	<1	1
Lead	ppm	ASTM D5185m	>10	0	4	3
Copper	ppm	ASTM D5185m	>75	2	4	4
Tin	ppm	ASTM D5185m	>10	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

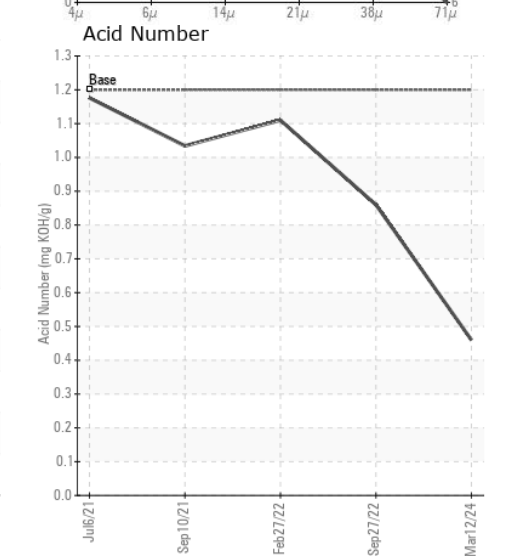
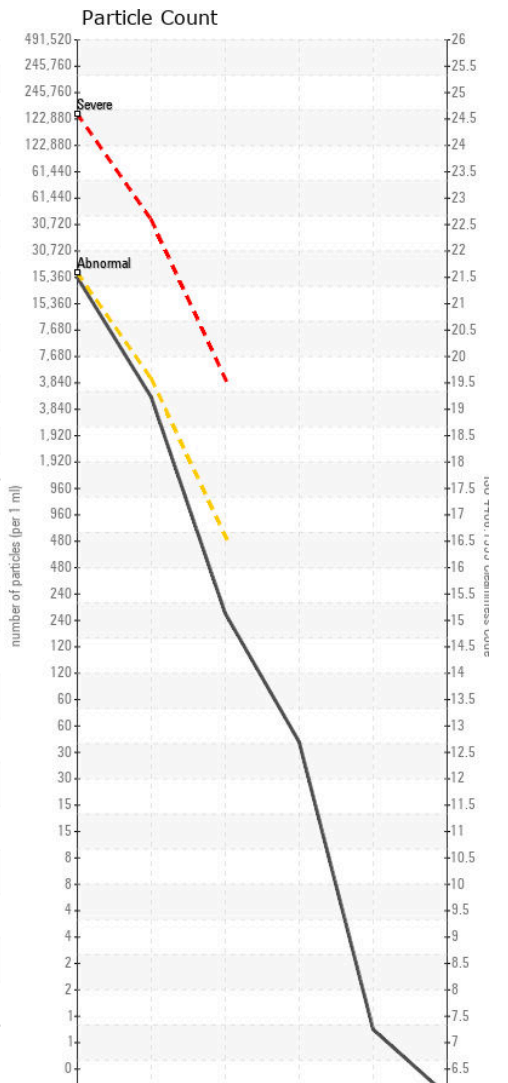
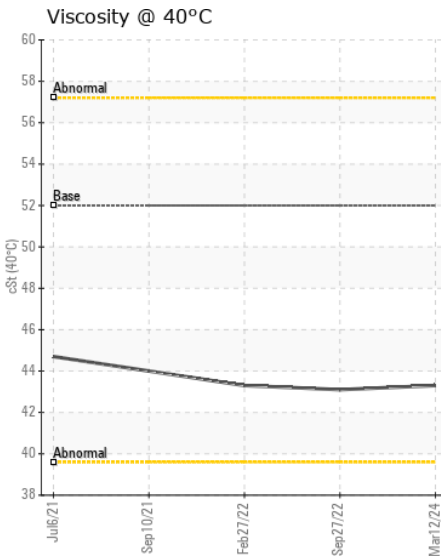
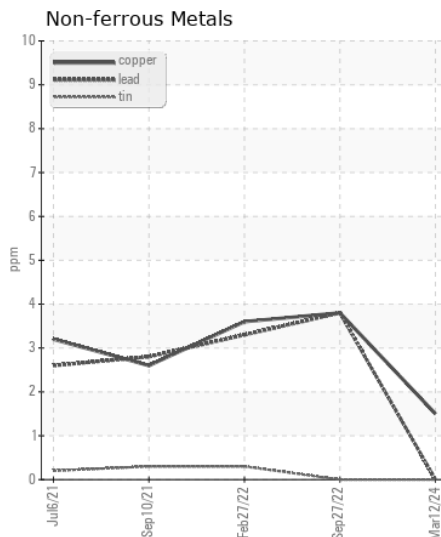
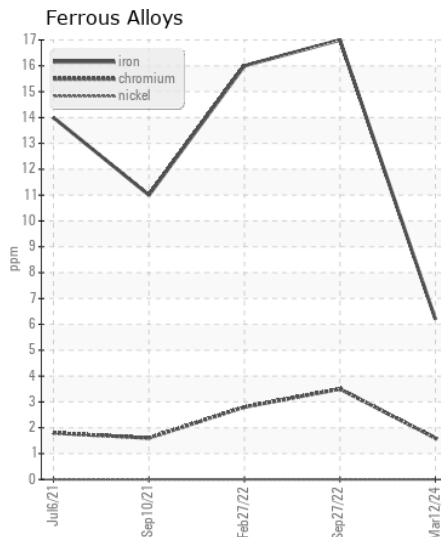
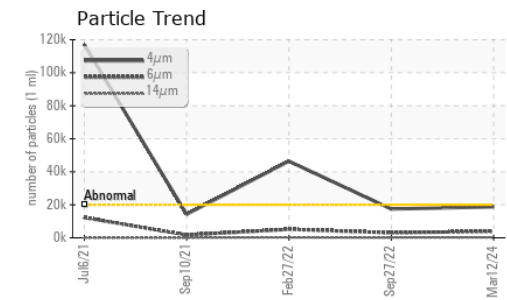
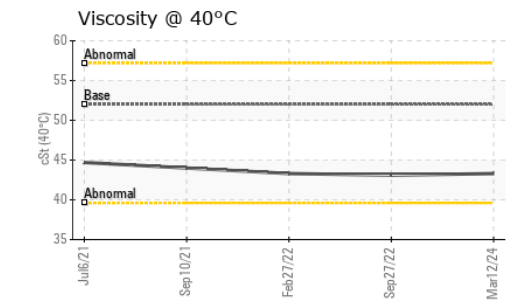
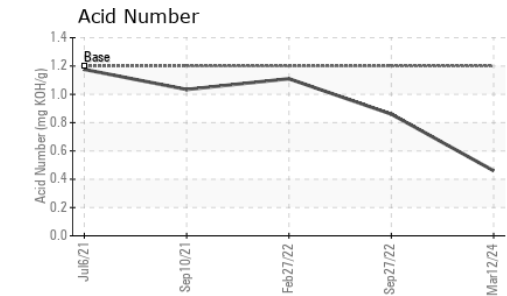
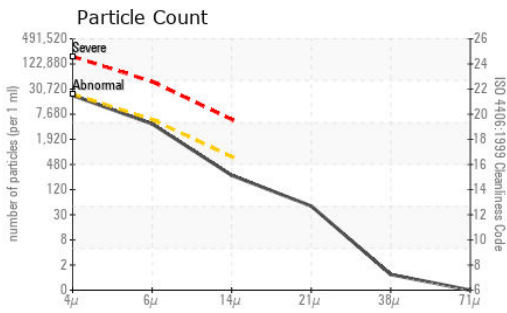
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>20	1	3	2
Potassium	ppm	ASTM D5185m	>20	0	0	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>20000	18783	17422	▲ 46424
Particles >6µm		ASTM D7647	>5000	3921	3054	● 5162
Particles >14µm		ASTM D7647	>640	232	139	262
Particles >21µm		ASTM D7647	>160	43	16	64
Particles >38µm		ASTM D7647	>40	1	1	2
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	21/19/15	21/19/14	▲ 23/20/15
Silt	scalar	*Visual	NONE	NONE	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	>0.1	NEG	NEG	NEG

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	<1	0
Boron	ppm	ASTM D5185m		0	1	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	<1
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	7	5	8	9
Calcium	ppm	ASTM D5185m	1500	250	983	1112
Phosphorus	ppm	ASTM D5185m	750	330	506	561
Zinc	ppm	ASTM D5185m	820	404	595	644
Sulfur	ppm	ASTM D5185m	4000	1448	4357	3814
Acid Number (AN)	mg KOH/g	ASTM D8045	1.2	0.46	0.86	1.11
Visc @ 40°C	cSt	ASTM D445	52	43.3	43.1	43.3



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LH0264452 **Received** : 15 Apr 2024
Lab Number : 06149508 **Tested** : 16 Apr 2024
Unique Number : 10979586 **Diagnosed** : 17 Apr 2024 - Don Baldrige
Test Package : CONST

INTERSTATE POWER SYSTEMS
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 ALTOONA, IA
 US 50009
 Contact: DALTON JOHNSON
 dalton.johnson@istate.com
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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)