LIEBHERR
CONSTRUCTION EQUIPMENT

LIEBHERR LH50 109502-1216 - Hydraulic System

Sample No: LH0258809

Oil Type: LIEBHERR HYDRAULIC HVI

AMERICAN STATE EQUIPMENT CO.
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US 54401
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SAMPLE INFORMATION

Sample Number		**LH0258809**	LHMC149791	LHMC142208	---
Sample Date		**04 Mar 2024**	26 Feb 2019	07 Jan 2019	---
Machine Hours		**22219**	800	15	---
Oil Hours		**0**	800	15	---
Oil Changed		**Not Changd**	Changed	Changed	---
Sample Status		**NORMAL**	NORMAL	ABNORMAL	---

OIL CONDITION

Visc @ 40°C	cSt	**49.0**	48.84	48.83	---
Acid Number (AN)	mg KOH/g	**0.82**	0.997	1.114	---

CONTAMINATION

Water	%	**NEG**	NEG	NEG	---
Particles >4µm		**13826**	12102	49286	---
Particles >6µm		**1336**	203	3316	---
Particles >14µm		**93**	12	60	---
ISO 4406:1999 (c)		**21/18/14**	21/15/11	23/19/13	---
Silicon	ppm	**12**	1	1	---
Sodium	ppm	**3**	<1	1	---
Potassium	ppm	**<1**	1	1	---

WEAR METALS

Iron	ppm	**7**	11	3	---
Copper	ppm	**1**	<1	<1	---
Lead	ppm	**<1**	<1	<1	---
Tin	ppm	**<1**	0	<1	---
Aluminum	ppm	**1**	<1	<1	---
Chromium	ppm	**0**	<1	0	---
Molybdenum	ppm	**2**	<1	<1	---
Nickel	ppm	**0**	0	0	---
Titanium	ppm	**0**	<1	0	---
Silver	ppm	**0**	<1	0	---
Manganese	ppm	**<1**	<1	<1	---
Vanadium	ppm	**0**	0	0	---

ADDITIVES

Calcium	ppm	**3230**	1456	1427	---
Magnesium	ppm	**31**	9	9	---
Zinc	ppm	**1439**	857	702	---
Phosphorus	ppm	**1133**	703	614	---
Barium	ppm	**0**	<1	0	---
Boron	ppm	**103**	5	6	---

Diagnosis

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. Confirm oil type. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Depot: LEC0008
Unique No: 10949401
Signed: Don Baldridge
Report Date: 29 Mar 2024

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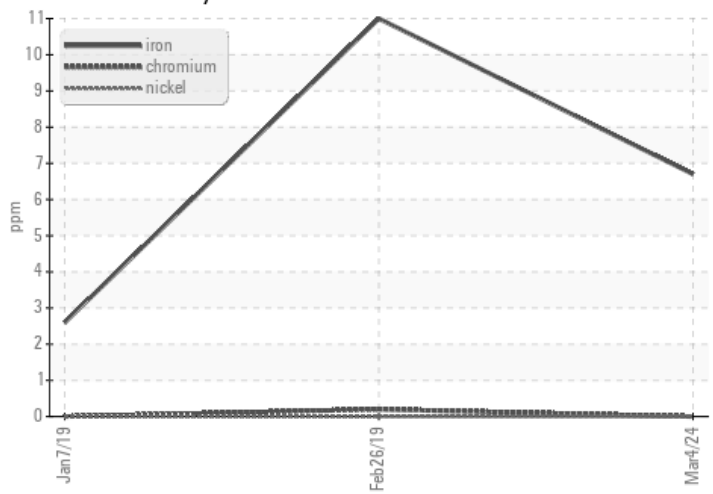
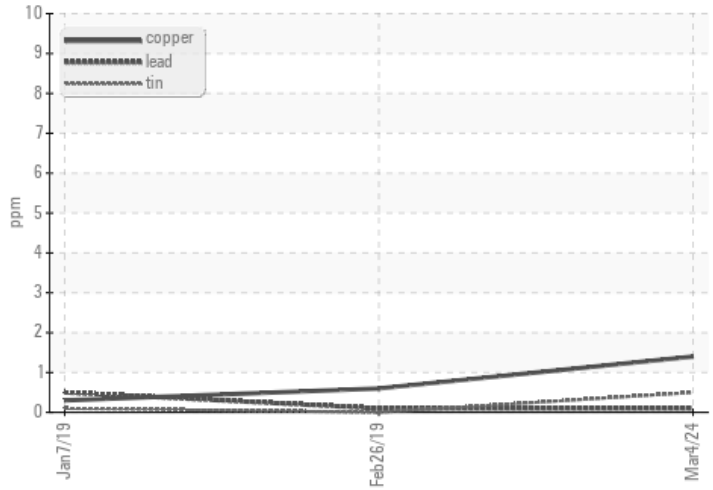
GRAPHS

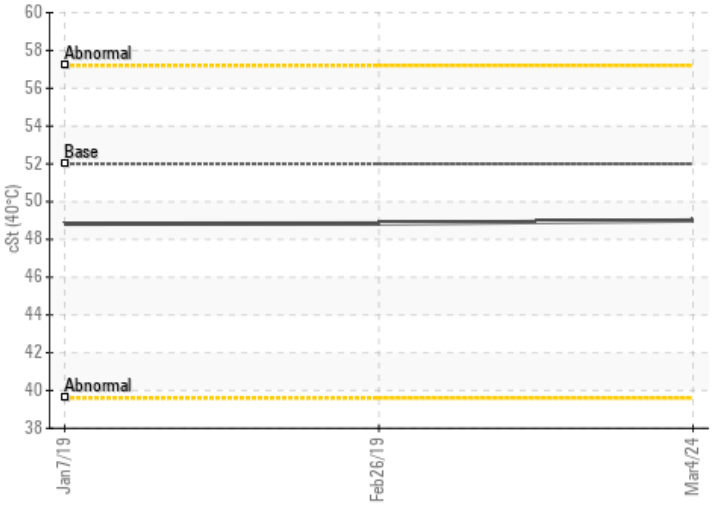
Ferrous Alloys



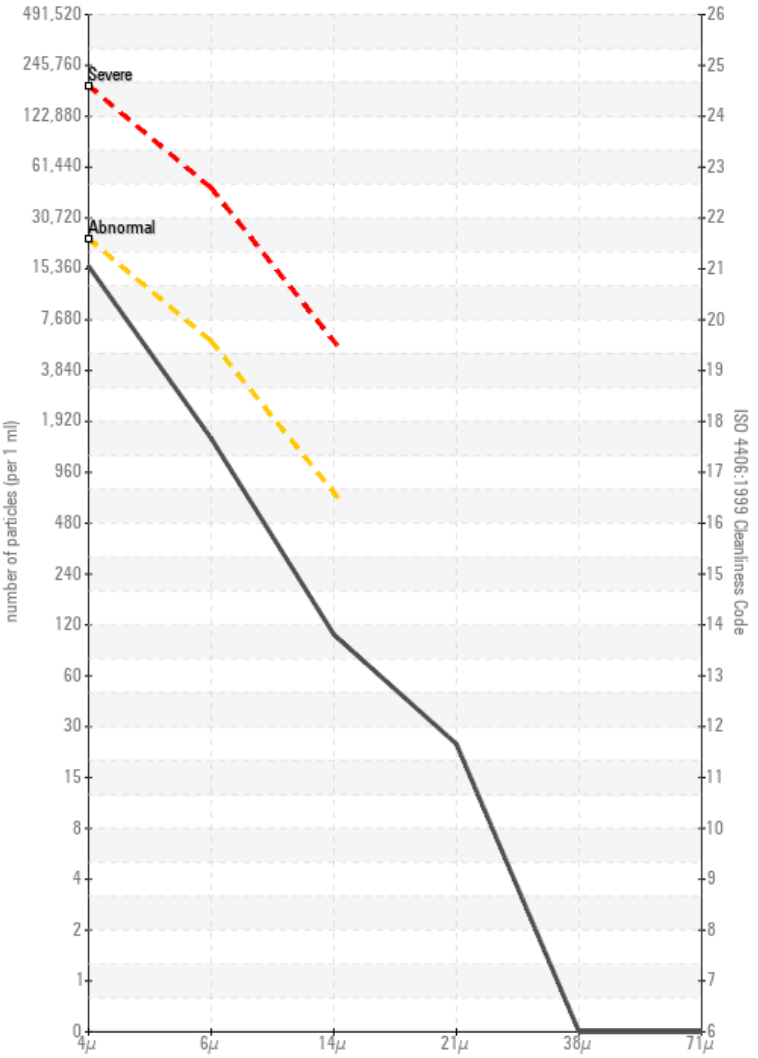
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number