

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR HS 8100 HD 184977 - Hydraulic System

Sample No: LHMC144464

Oil Type: LIEBHERR HYDRAULIC 37



SAMPLE INFORMATION

Sample Number	LHMC144464	LH0204266	LHMC143566	LHMC144715
Sample Date	27 Mar 2023	01 Aug 2022	26 May 2021	27 Apr 2019
Machine Hours	4281	4000	3134	1079
Oil Hours	4281	4000	3134	0
Oil Changed	Changed	Not Changd	Not Changd	Not Changd
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

DENSIFICATION INC

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US 20129

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OIL CONDITION

Visc @ 40°C	cSt	34.4	34.4	34.6	35.8
Acid Number (AN)	mg KOH/g	0.42	0.46	0.467	0.459



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		214	994	3323	4788
Particles >6µm		61	159	847	1054
Particles >14µm		7	9	70	78
ISO 4406:1999 (c)		15/13/10	17/14/10	19/17/13	19/17/13
Silicon	ppm	6	6	6	7
Sodium	ppm	0	0	1	<1
Potassium	ppm	0	0	0	0

Diagnosis

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



WEAR METALS

Iron	ppm	7	6	7	3
Copper	ppm	9	10	10	6
Lead	ppm	0	<1	<1	<1
Tin	ppm	0	0	<1	0
Aluminum	ppm	<1	0	0	0
Chromium	ppm	0	0	<1	0
Molybdenum	ppm	0	0	0	0
Nickel	ppm	0	0	0	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	309	314	323	325
Magnesium	ppm	14	9	9	10
Zinc	ppm	385	368	367	369
Phosphorus	ppm	328	313	328	324
Barium	ppm	0	0	0	0
Boron	ppm	5	0	12	8

Depot: DENPAE

Unique No: 10430219

Signed: Don Baldrige

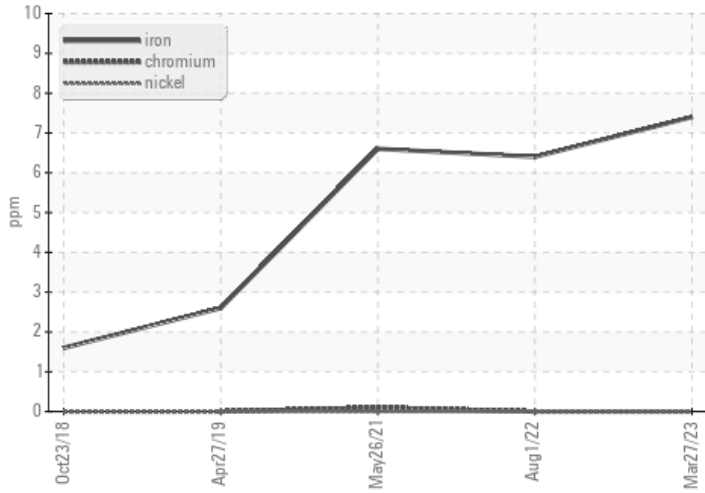
Report Date: 19 Apr 2023

Submitted By: ROBERT SHAFFER

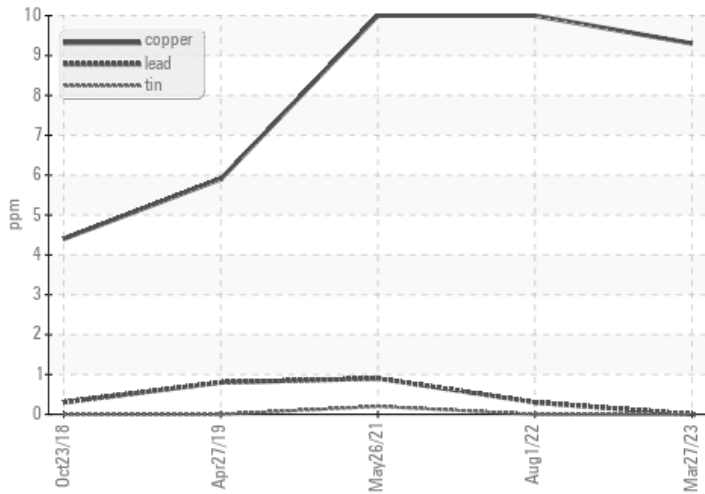


GRAPHS

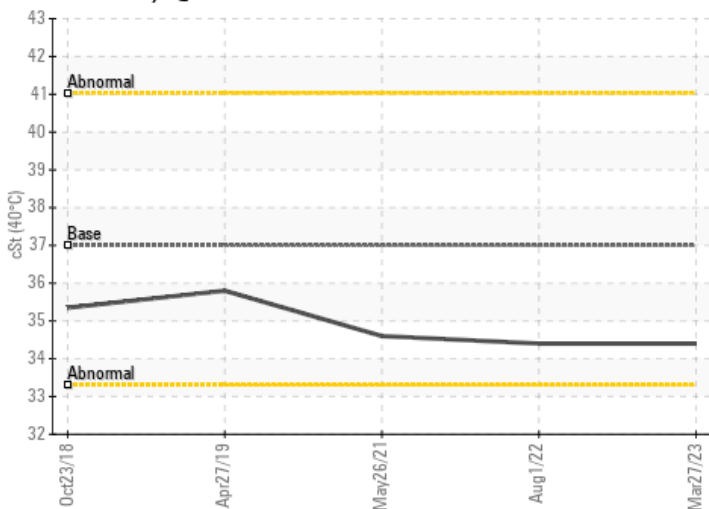
Ferrous Alloys



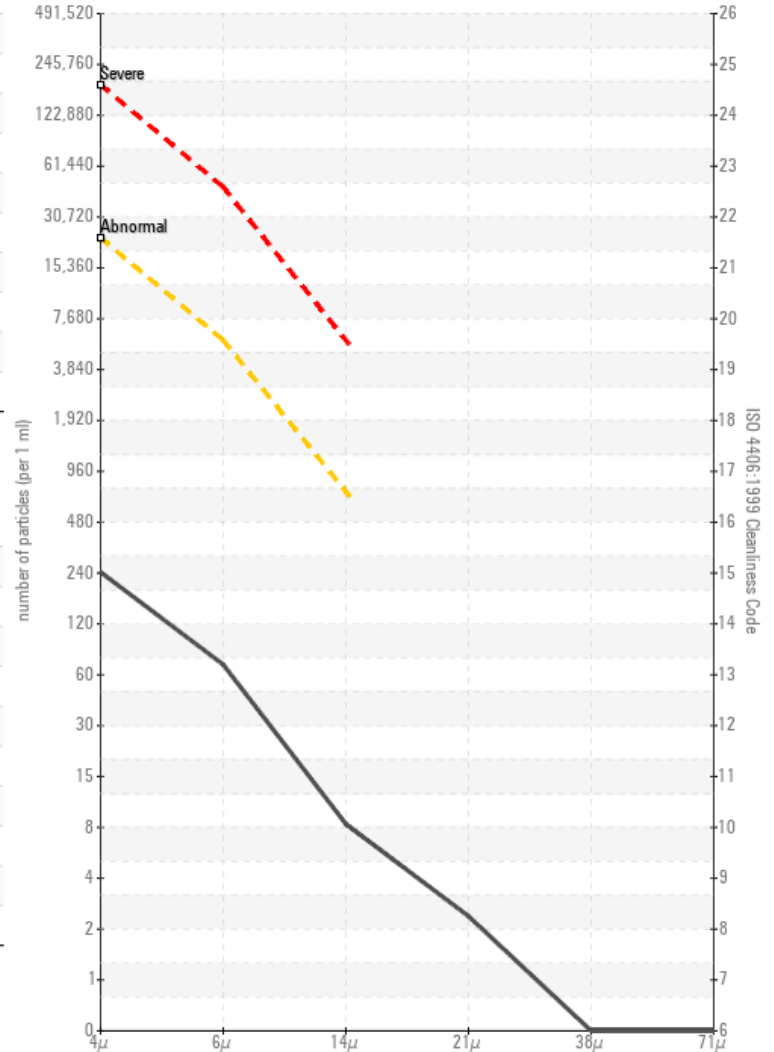
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

