

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH60M 1204-74217 - Hydraulic System

Sample No: LH0268891

Oil Type: LIEBHERR HYDRAULIC HVI



Sample Information

Sample Number	LH0268891	LH0235996	LHMC121039	LHMC80520
Sample Date	09 Apr 2024	26 Aug 2022	10 Aug 2017	24 May 2016
Machine Hours	14693	0	8752	4556
Oil Hours	500	0	0	0
Oil Changed	Not Changd	N/A	N/A	Not Changd
Sample Status	NORMAL	ABNORMAL	SEVERE	ABNORMAL

MIDDLE RIVER MARINE
 1771 SOUTH TORRENCE AVE
 CHICAGO, IL
 US 60617
 Contact: Scott Molitor
 scottmolitor@gomiddleriver.com
 T:
 F:



Oil Condition

Visc @ 40°C	cSt	47.7	48.6	46.6	40.15
Acid Number (AN)	mg KOH/g	0.61	0.58	0.768	0.992



Contamination

Water	%	NEG	NEG	NEG	NEG
Particles 5-15µm	count	---	---	224705	---
Particles 15-25µm	count	---	---	16058	---
Particles 25-50µm	count	---	---	5870	---
Particles 50-100µm	count	---	---	520	---
Particles >100µm	count	---	---	94	---
NAS Code		---	---	10	---
Particles >4µm		14299	5585	9824	2101
Particles >6µm		744	885	2553	43
Particles >14µm		15	74	233	4
ISO 4406:1999 (c)		21/17/11	20/17/13	20/19/15	18/13/9
Silicon	ppm	3	3	4	3
Sodium	ppm	5	8	4	3
Potassium	ppm	<1	0	<1	1

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



Wear Metals

Iron	ppm	20	25	14	9
Copper	ppm	12	23	22	19
Lead	ppm	<1	<1	2	1
Tin	ppm	0	0	0	<1
Aluminum	ppm	<1	1	<1	<1
Chromium	ppm	2	2	1	<1
Molybdenum	ppm	3	2	2	1
Nickel	ppm	0	0	0	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



Additives

Calcium	ppm	594	414	483	508
Magnesium	ppm	93	148	258	273
Zinc	ppm	626	595	690	742
Phosphorus	ppm	491	495	567	623
Barium	ppm	0	0	0	0
Boron	ppm	8	2	2	2

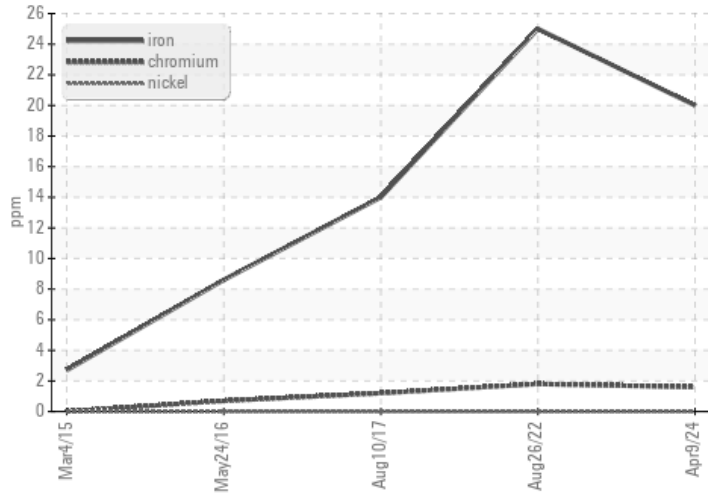
Depot: MIDCHIL
 Unique No: 11004169
 Signed: Jonathan Hester
 Report Date: 02 May 2024

Contact/Location: Scott Molitor - MIDCHIL

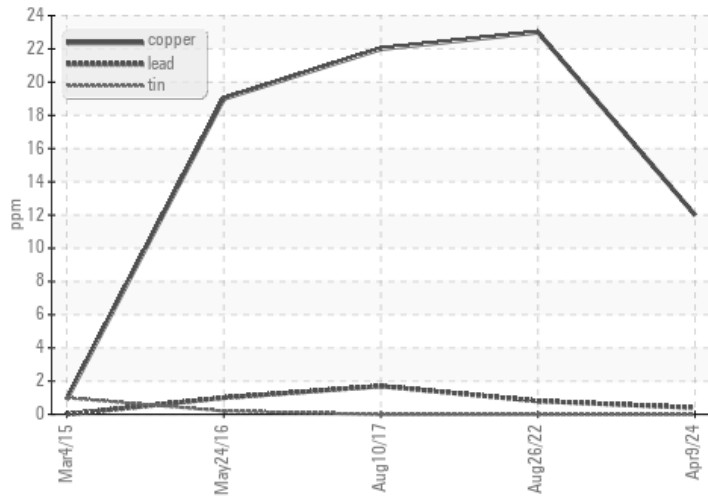


Graphs

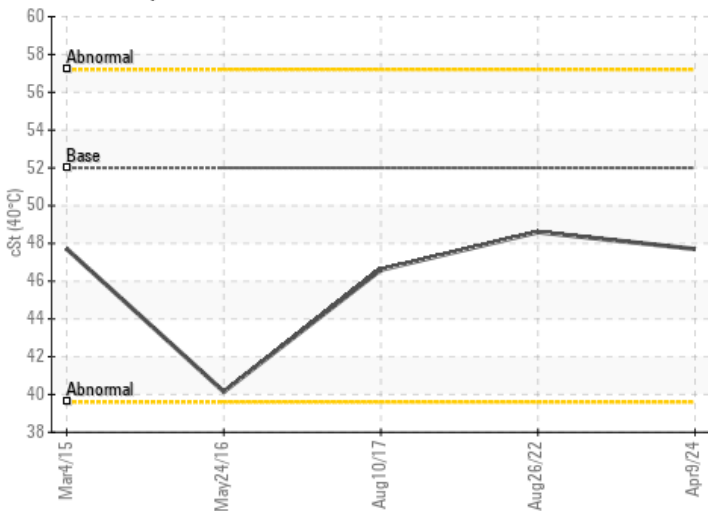
Ferrous Alloys



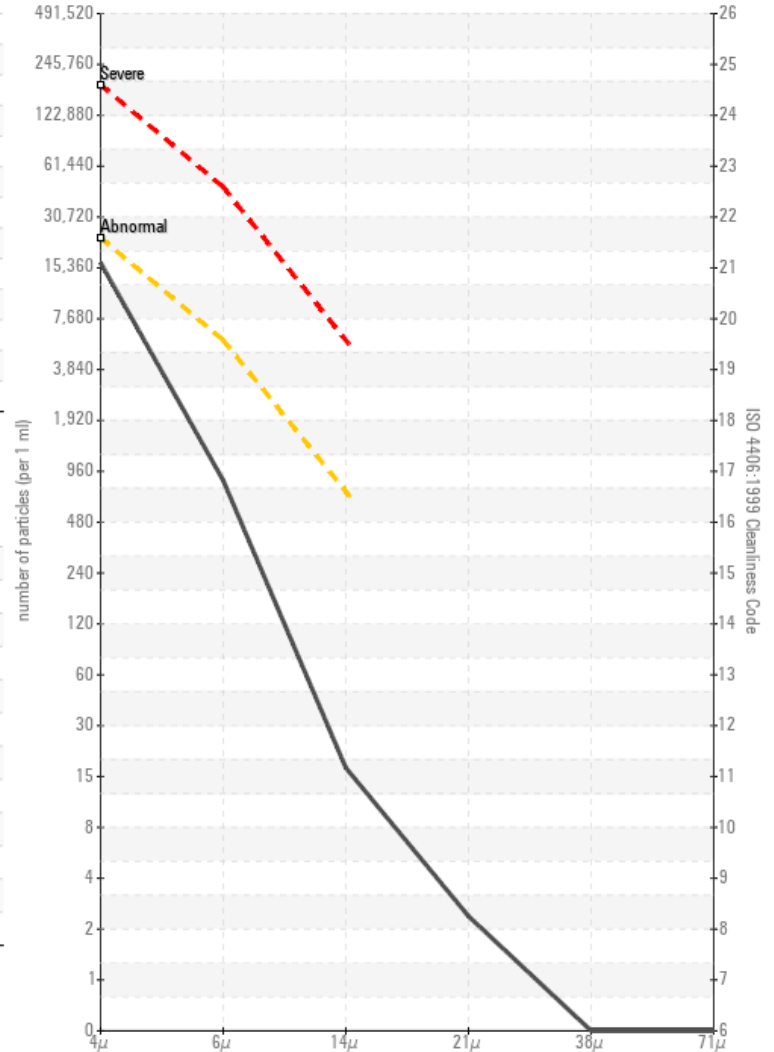
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

