

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### LIEBHERR LH50 11551-1216 - Hydraulic System

Sample No: LHMC163241

Oil Type: LIEBHERR HYDRAULIC HVI



#### SAMPLE INFORMATION

Sample Number	LHMC163241	LH0156632	LHMC163287	LHMC146017
Sample Date	29 Aug 2023	25 Apr 2023	26 Jan 2023	06 May 2020
Machine Hours	17705	15697	14047	4977
Oil Hours	0	0	0	1720
Oil Changed	Not Changd	Not Changd	Not Changd	N/A
Sample Status	NORMAL	NORMAL	ATTENTION	NORMAL

#### BOISE WHITE PAPER

3RD AVE AND HWY 11, 400 2ND ST  
INTERNATIONAL FALLS, MN  
US 56649  
Contact: GARY MANN  
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T:  
F: (218)285-5860



#### OIL CONDITION

Visc @ 40°C	cSt	30.9	34.7	31.1	34.5
Acid Number (AN)	mg KOH/g	0.39	0.34	0.36	0.430



#### CONTAMINATION

Particles >4µm		2481	1989	3699	17268
Particles >6µm		694	568	1120	1255
Particles >14µm		56	47	74	35
ISO 4406:1999 (c)		18/17/13	18/16/13	19/17/13	21/17/12
Silicon	ppm	<1	<1	<1	2
Sodium	ppm	0	0	0	1
Potassium	ppm	<1	<1	<1	<1

#### 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	8	12	12	25
Copper	ppm	<1	<1	<1	4
Lead	ppm	<1	0	0	<1
Tin	ppm	0	0	0	<1
Aluminum	ppm	0	0	0	<1
Chromium	ppm	0	0	0	<1
Molybdenum	ppm	<1	<1	<1	0
Nickel	ppm	0	0	0	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	<1
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



#### ADDITIVES

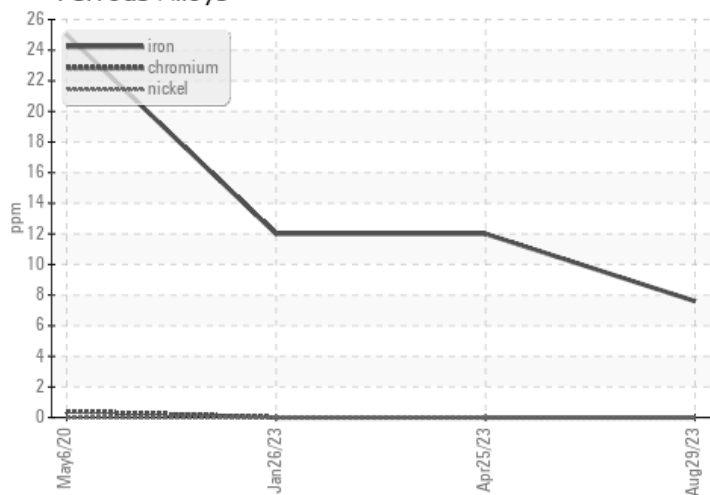
Calcium	ppm	57	70	69	631
Magnesium	ppm	3	5	2	3
Zinc	ppm	420	433	346	310
Phosphorus	ppm	321	334	312	503
Barium	ppm	2	0	<1	0
Boron	ppm	0	0	0	<1

Depot: BOIINT  
Unique No: 10633543  
Signed: Don Baldrige  
Report Date: 08 Sep 2023

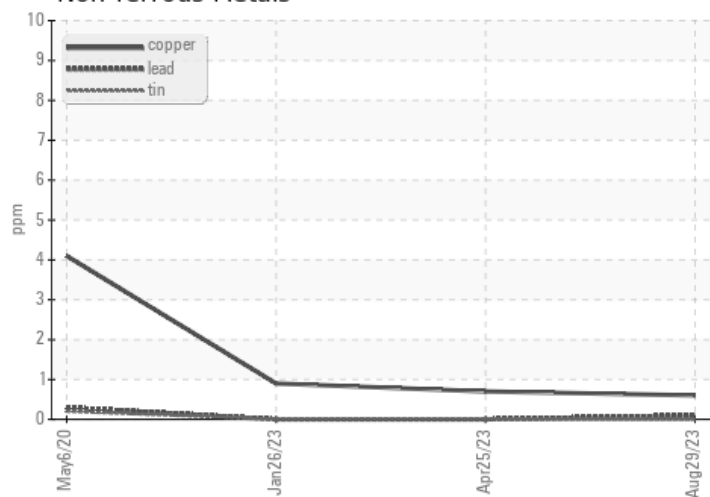


### GRAPHS

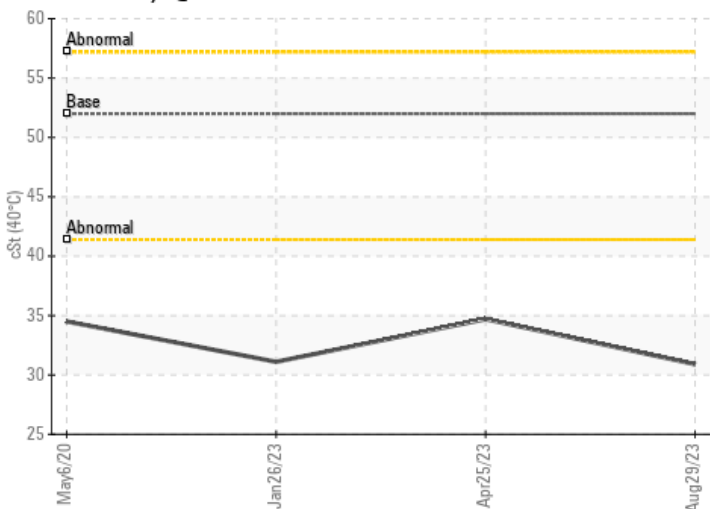
#### Ferrous Alloys



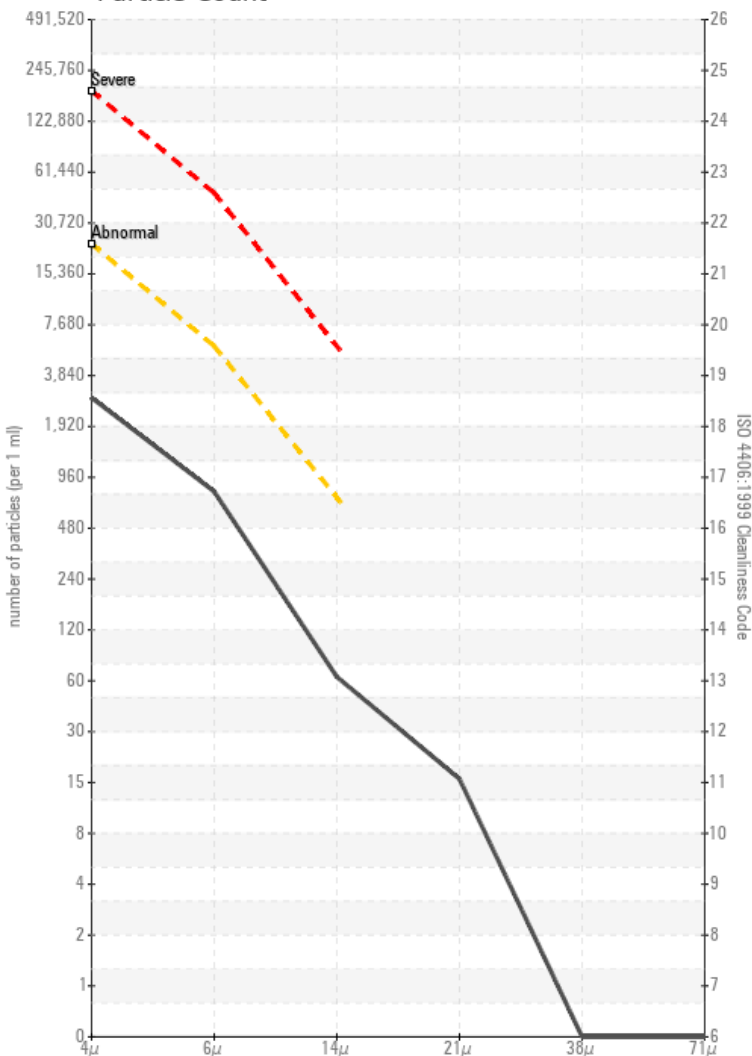
#### Non-ferrous Metals



#### Viscosity @ 40°C



#### Particle Count



#### Acid Number

