

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### 116431-1217 - Hydraulic System

Sample No: LH0215732

Oil Type: LIEBHERR HYDRAULIC HVI



#### SAMPLE INFORMATION

Sample Number	LH0215732	LH0202951	LH0173444	LH0195493
Sample Date	12 Dec 2021	20 Sep 2021	22 Apr 2021	08 Apr 2021
Machine Hours	4729	4187	3269	3172
Oil Hours	0	0	0	0
Oil Changed	Not Changd	Not Changd	Not Changd	Not Changd
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	ABNORMAL

#### American Iron and Metal

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CA K1B 3V6  
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#### OIL CONDITION

Visc @ 40°C	cSt	41.4	41.5	42.0	41.7



#### CONTAMINATION

Particles >4µm		4308	2601	359	41483
Particles >6µm		382	521	108	8265
Particles >14µm		14	20	12	97
ISO 4406:1999 (c)		19/16/11	19/16/11	16/14/11	23/20/14
Silicon	ppm	2	2	2	2
Sodium	ppm	3	2	2	2
Potassium	ppm	1	1	<1	1



#### WEAR METALS

PQ		8	0	0	3
Iron	ppm	103	76	65	68
Copper	ppm	6	4	4	4
Lead	ppm	1	<1	<1	<1
Tin	ppm	<1	<1	0	<1
Aluminum	ppm	<1	<1	<1	<1
Chromium	ppm	1	<1	<1	<1
Molybdenum	ppm	0	<1	<1	<1
Nickel	ppm	<1	<1	<1	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	<1	<1
Manganese	ppm	2	1	1	1
Vanadium	ppm	<1	<1	<1	<1



#### ADDITIVES

Calcium	ppm	1185	1038	1141	1166
Magnesium	ppm	7	5	7	7
Zinc	ppm	781	694	715	705
Phosphorus	ppm	682	624	591	577
Barium	ppm	0	0	<1	<1
Boron	ppm	1	1	<1	<1

#### Diagnosis

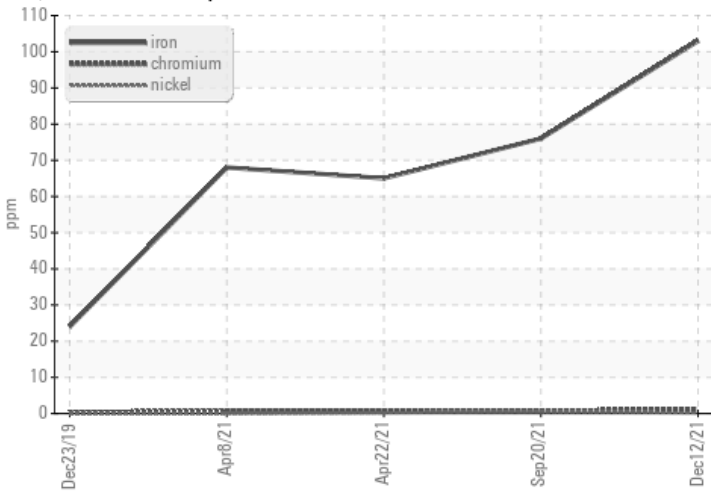
We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. NOTE: An increase in the particle count is noted. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: BAKOTT  
Unique No: 5331373  
Signed: Kevin Marson  
Report Date: 23 Dec 2021

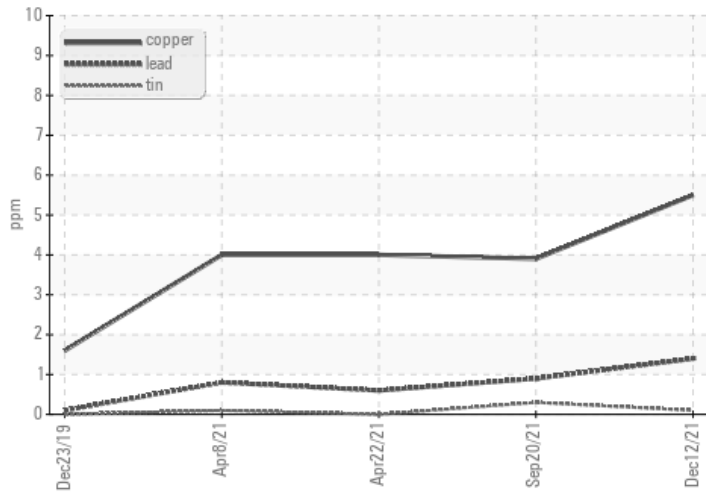


### GRAPHS

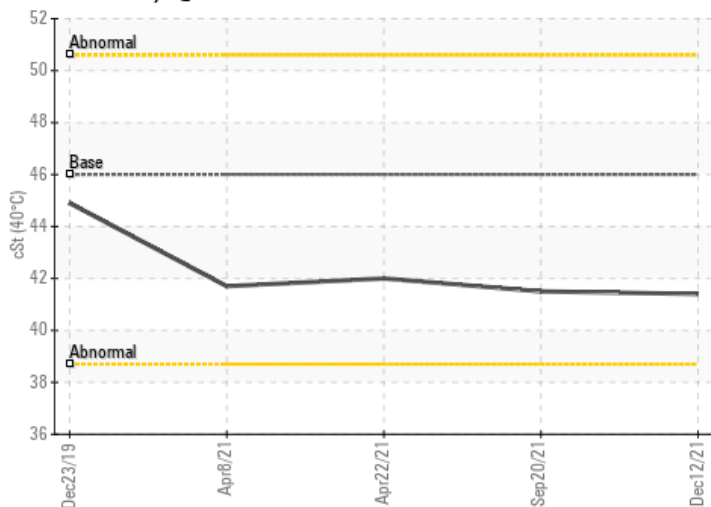
#### ● Ferrous Alloys



#### Non-ferrous Metals



#### Viscosity @ 40°C



#### Particle Count

