

LIEBHERR

CONSTRUCTION EQUIPMENT



116431-1217 - Hydraulic System

Sample No: LH

Oil Type: LIEBHERR HYDRAULIC HVI



SAMPLE INFORMATION

Sample Number	LH	LH0215732	LH0202951	LH0173444
Sample Date	26 Jan 2022	12 Dec 2021	20 Sep 2021	22 Apr 2021
Machine Hours	4903	4729	4187	3269
Oil Hours	0	0	0	0
Oil Changed	Changed	Not Changd	Not Changd	Not Changd
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	ABNORMAL

American Iron and Metal

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OIL CONDITION

Visc @ 40°C	cSt	41.5	41.4	41.5	42.0
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CONTAMINATION

Particles >4µm		3873	4308	2601	359
Particles >6µm		464	382	521	108
Particles >14µm		23	14	20	12
ISO 4406:1999 (c)		19/16/12	19/16/11	19/16/11	16/14/11
Silicon	ppm	2	2	2	2
Sodium	ppm	3	3	2	2
Potassium	ppm	1	1	1	<1



WEAR METALS

PQ		5	8	0	0
Iron	ppm	97	103	76	65
Copper	ppm	5	6	4	4
Lead	ppm	1	1	<1	<1
Tin	ppm	<1	<1	<1	0
Aluminum	ppm	<1	<1	<1	<1
Chromium	ppm	1	1	<1	<1
Molybdenum	ppm	0	0	<1	<1
Nickel	ppm	0	<1	<1	<1
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	<1
Manganese	ppm	2	2	1	1
Vanadium	ppm	<1	<1	<1	<1



ADDITIVES

Calcium	ppm	1083	1185	1038	1141
Magnesium	ppm	6	7	5	7
Zinc	ppm	709	781	694	715
Phosphorus	ppm	610	682	624	591
Barium	ppm	0	0	0	<1
Boron	ppm	<1	1	1	<1

Diagnosis

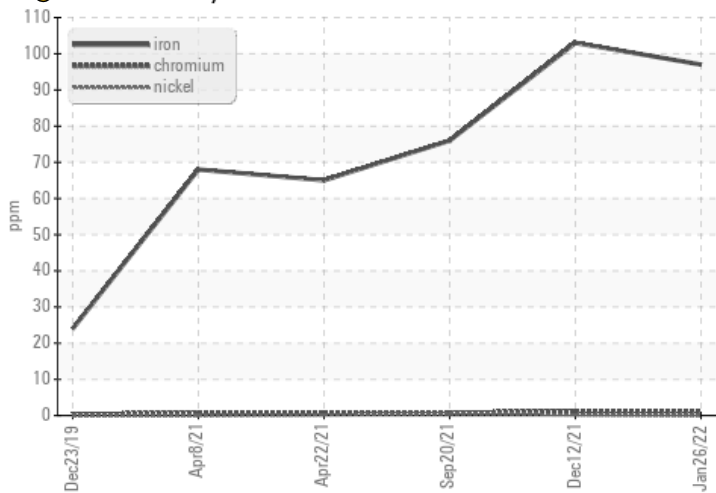
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: BAKOTT
Unique No: 5346582
Signed: Kevin Marson
Report Date: 03 Feb 2022

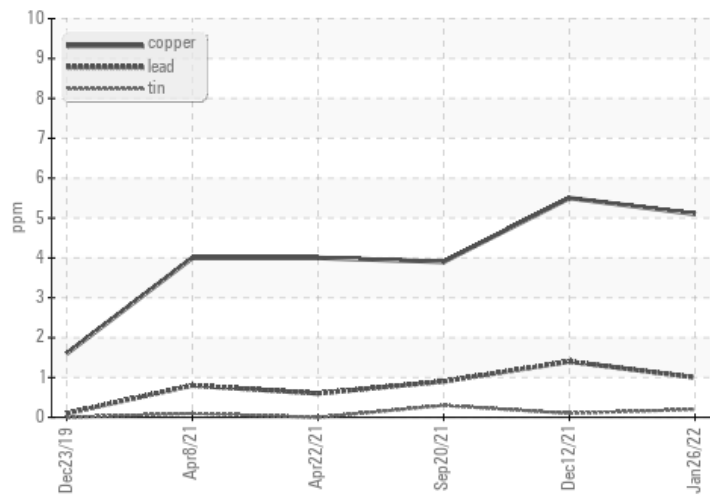


GRAPHS

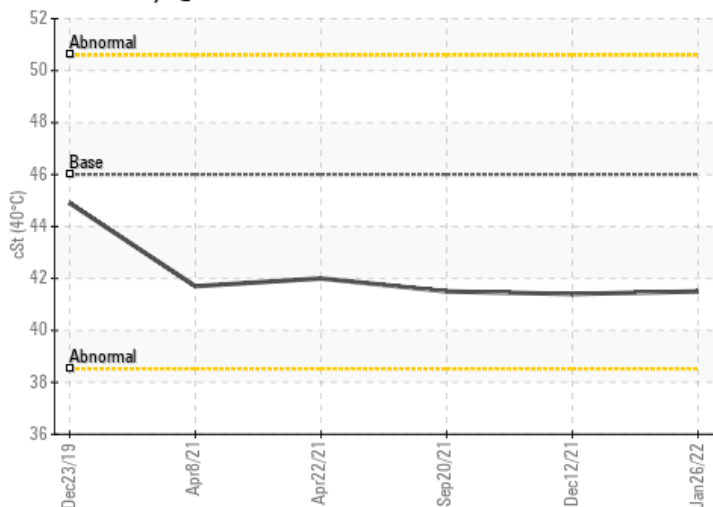
● Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Count

