

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH50M 086015-1203 - Hydraulic System

Sample No: LH0278355

Oil Type: LIEBHERR HYDRAULIC HVI



Dartmouth Metals & Bottle Ltd.
 14 Dawn Drive
 Dartmouth, NS
 CA B3B 1H9
 Contact: Service



SAMPLE INFORMATION

Sample Number	LH0278355	LH0234499	LH0194941	LH0132710
Sample Date	28 Nov 2023	27 Jun 2022	31 Aug 2021	09 Jun 2020
Machine Hours	20736	17693	15905	14601
Oil Hours	0	0	0	0
Oil Changed	N/A	Not Changd	Changed	Not Changd
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	ABNORMAL



OIL CONDITION

Visc @ 40°C	cSt	36.6	36.9	35.5	40.1
Acid Number (AN)	mg KOH/g	---	---	---	0.41



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		4804	8347	53519	60254
Particles >6µm		510	1262	14809	1343
Particles >14µm		13	39	1142	37
ISO 4406:1999 (c)		19/16/11	20/17/12	23/21/17	23/18/12
Silicon	ppm	2	1	<1	<1
Sodium	ppm	<1	<1	<1	0
Potassium	ppm	<1	<1	<1	<1



WEAR METALS

Iron	ppm	21	10	7	13
Copper	ppm	2	1	<1	<1
Lead	ppm	<1	<1	<1	0
Tin	ppm	0	0	<1	0
Aluminum	ppm	1	<1	<1	<1
Chromium	ppm	2	<1	<1	<1
Molybdenum	ppm	0	0	<1	0
Nickel	ppm	0	0	<1	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	58	65	70	60
Magnesium	ppm	2	1	1	<1
Zinc	ppm	326	334	350	427
Phosphorus	ppm	273	270	300	342
Barium	ppm	0	0	0	0
Boron	ppm	<1	<1	<1	<1

T:
F:

Diagnosis

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as LIEBHERR HYDRAULIC HVI, however, a fluid match indicates that this fluid is ISO 32 AW Hydraulic Oil. Please confirm the oil type and grade on your next sample. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. Viscosity of sample indicates oil is within ISO 32 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Depot: DAR14DAR
Unique No: 5708952
Signed: Kevin Marson
Report Date: 12 Jan 2024

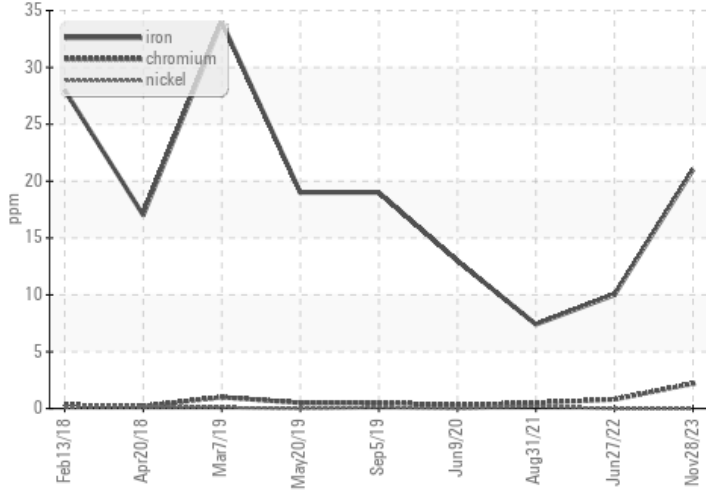
LIEBHERR

CONSTRUCTION EQUIPMENT

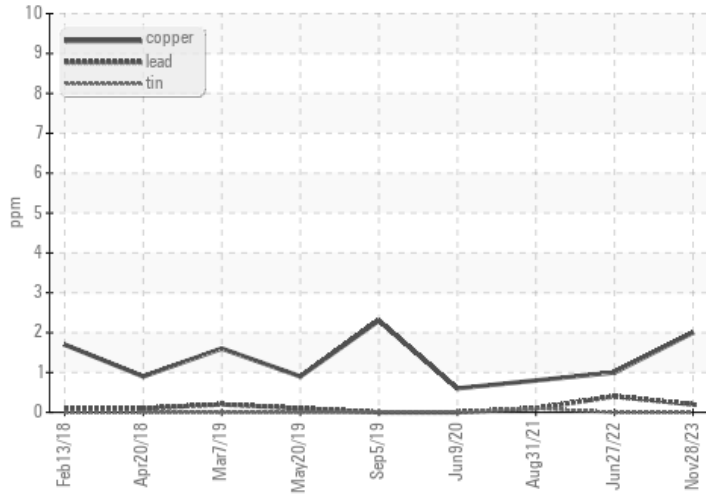


GRAPHS

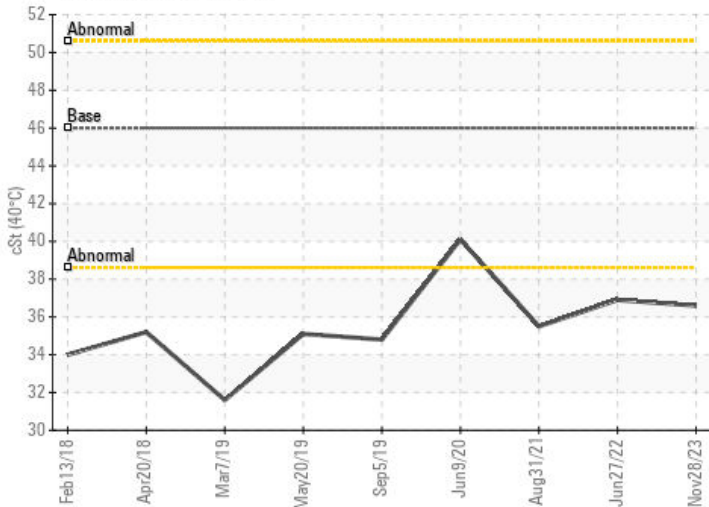
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Count

