

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A954 028291-450 - Hydraulic System

Sample No: LH0207976

Oil Type: AW HYDRAULIC OIL ISO 46



NILES IRON & METAL CO. INC.

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US 44446

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SAMPLE INFORMATION

Sample Number	LH0207976	LH0244382	LHMC154715	LH0171857
Sample Date	20 Jun 2023	16 Dec 2022	14 Sep 2021	06 Apr 2021
Machine Hours	25303	24087	20846	19804
Oil Hours	0	0	0	0
Oil Changed	Not Changd	Not Changd	Not Changd	Not Changd
Sample Status	NORMAL	NORMAL	ATTENTION	NORMAL



OIL CONDITION

Visc @ 40°C	cSt	43.7	44.0	44.3	44.1
Acid Number (AN)	mg KOH/g	0.41	0.44	0.460	0.517



CONTAMINATION

Particles >4µm		3261	6600	21401	18210
Particles >6µm		561	198	820	326
Particles >14µm		24	7	16	14
ISO 4406:1999 (c)		19/16/12	20/15/10	22/17/11	21/16/11
Silicon	ppm	<1	<1	2	1
Sodium	ppm	1	<1	1	0
Potassium	ppm	3	0	0	<1



WEAR METALS

Iron	ppm	5	7	14	18
Copper	ppm	<1	<1	2	2
Lead	ppm	0	0	0	<1
Tin	ppm	0	0	0	<1
Aluminum	ppm	<1	0	<1	0
Chromium	ppm	<1	<1	5	8
Molybdenum	ppm	1	2	2	3
Nickel	ppm	0	0	<1	0
Titanium	ppm	<1	<1	1	<1
Silver	ppm	0	0	<1	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	0	0	0



ADDITIVES

Calcium	ppm	106	105	237	264
Magnesium	ppm	19	14	28	30
Zinc	ppm	470	478	506	511
Phosphorus	ppm	370	390	429	416
Barium	ppm	0	0	<1	0
Boron	ppm	0	2	12	15

Diagnosis

Resample at the next service interval to monitor. 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. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Depot: NILNIL

Unique No: 10559338

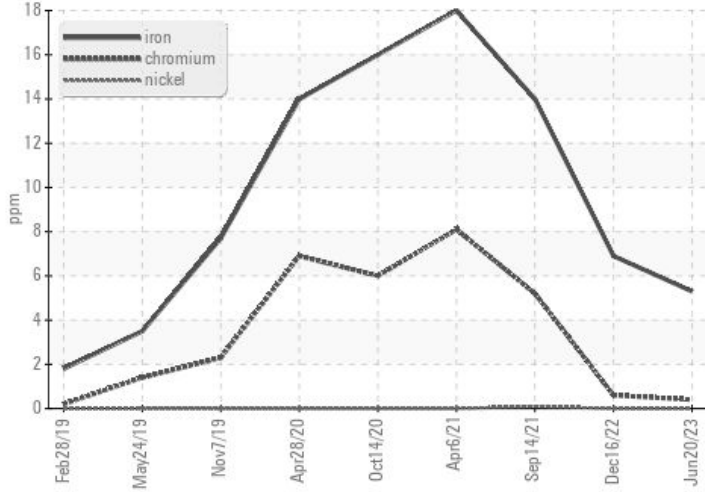
Signed: Wes Davis

Report Date: 14 Jul 2023

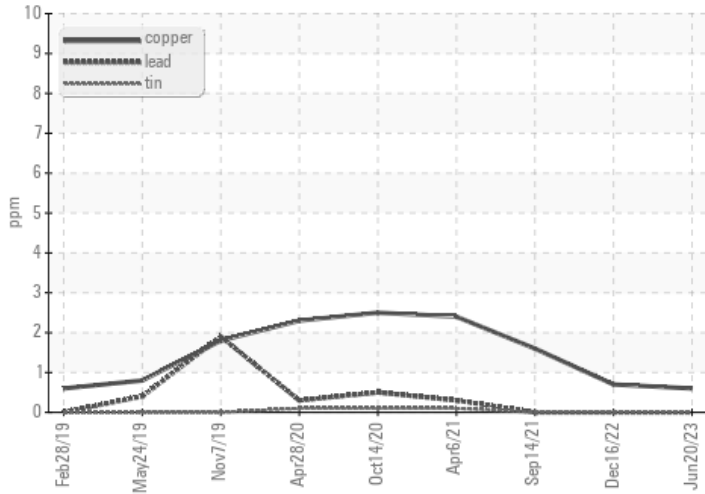


GRAPHS

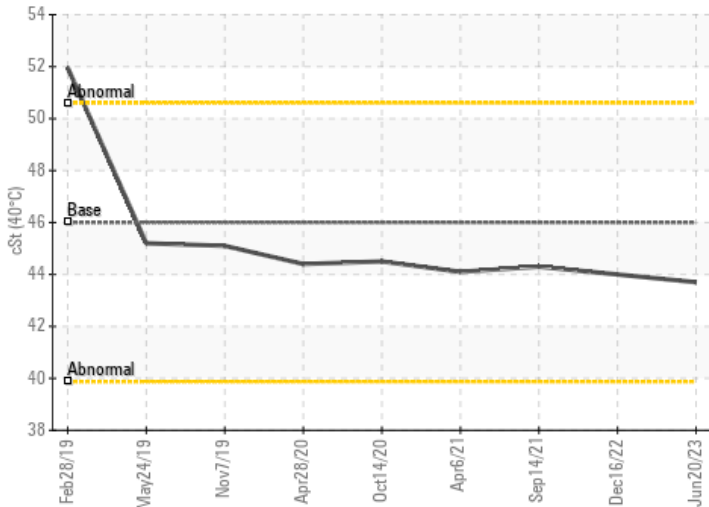
Ferrous Alloys



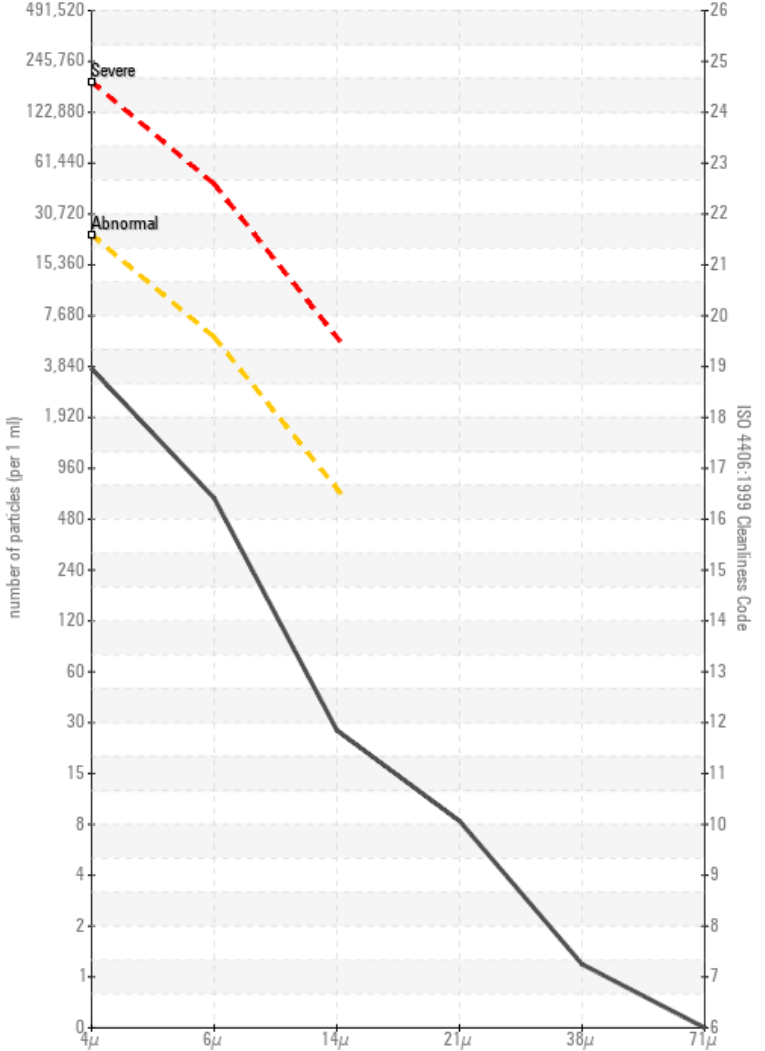
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

