

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A944 032403-194 - Hydraulic System

Sample No: LH0244850

Oil Type: AW HYDRAULIC OIL ISO 46



SAMPLE INFORMATION

Sample Number	LH0244850	LH0207980	LH0166522	LH0171891
Sample Date	09 Jan 2024	16 Jun 2023	03 Nov 2021	01 Apr 2021
Machine Hours	34200	33276	30340	28788
Oil Hours	0	0	0	0
Oil Changed	Not Changd	Not Changd	Not Changd	Not Changd
Sample Status	ATTENTION	ABNORMAL	ATTENTION	ATTENTION

NILES IRON & METAL CO. INC.

P.O. BOX 166

NILES, OH

US 44446

Contact: CRAIG STINSON

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OIL CONDITION

Visc @ 40°C	cSt	44.7	46.91	43.7	43.8
Acid Number (AN)	mg KOH/g	0.47	0.60	0.456	0.443



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		32441	---	36830	20828
Particles >6µm		1000	---	4145	974
Particles >14µm		16	---	65	18
ISO 4406:1999 (c)		22/17/11	---	22/19/13	22/17/11
Silicon	ppm	0	0	<1	<1
Sodium	ppm	0	0	0	0
Potassium	ppm	2	1	<1	<1

Diagnosis

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present 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	4	6	10	13
Copper	ppm	1	2	1	2
Lead	ppm	0	0	<1	<1
Tin	ppm	0	0	0	<1
Aluminum	ppm	2	0	0	0
Chromium	ppm	<1	<1	<1	2
Molybdenum	ppm	<1	4	4	3
Nickel	ppm	0	0	0	<1
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	0	<1	<1
Manganese	ppm	0	0	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	122	301	159	185
Magnesium	ppm	28	100	29	44
Zinc	ppm	466	562	495	516
Phosphorus	ppm	344	444	399	420
Barium	ppm	5	2	0	0
Boron	ppm	2	9	10	12

Depot: NILNIL

Unique No: 10869406

Signed: Wes Davis

Report Date: 07 Feb 2024

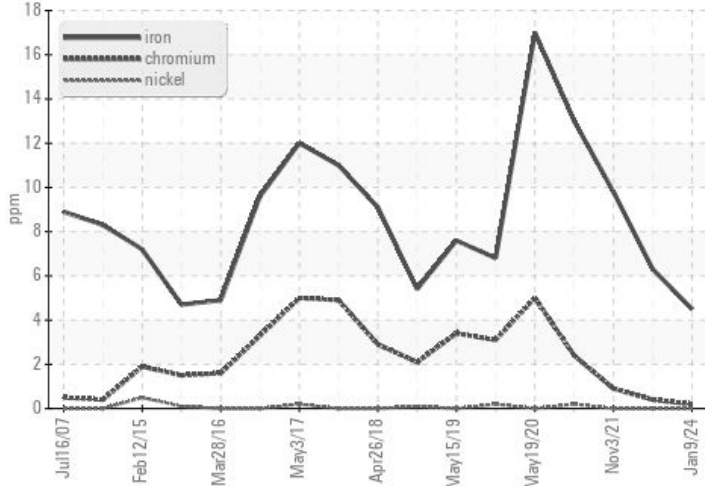
LIEBHERR

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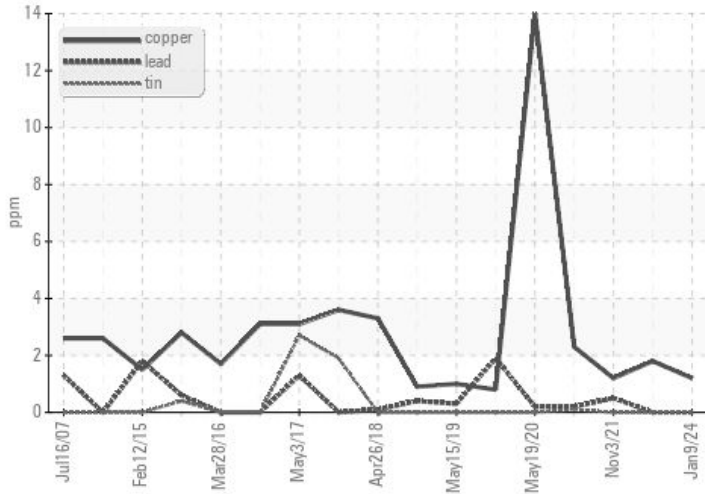


GRAPHS

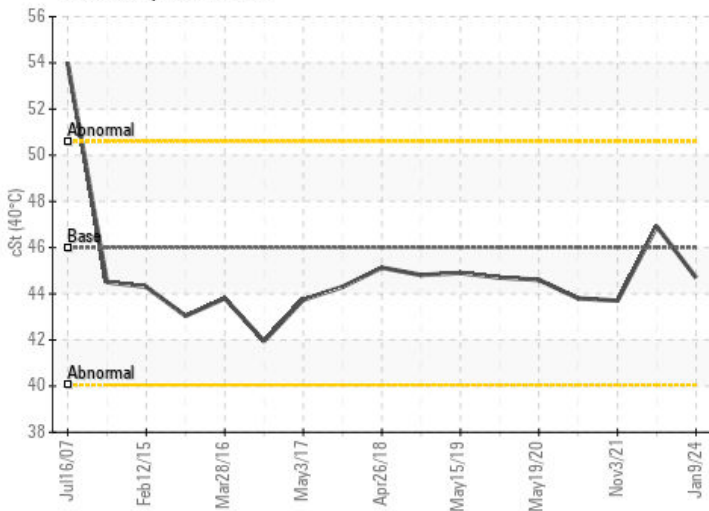
Ferrous Alloys



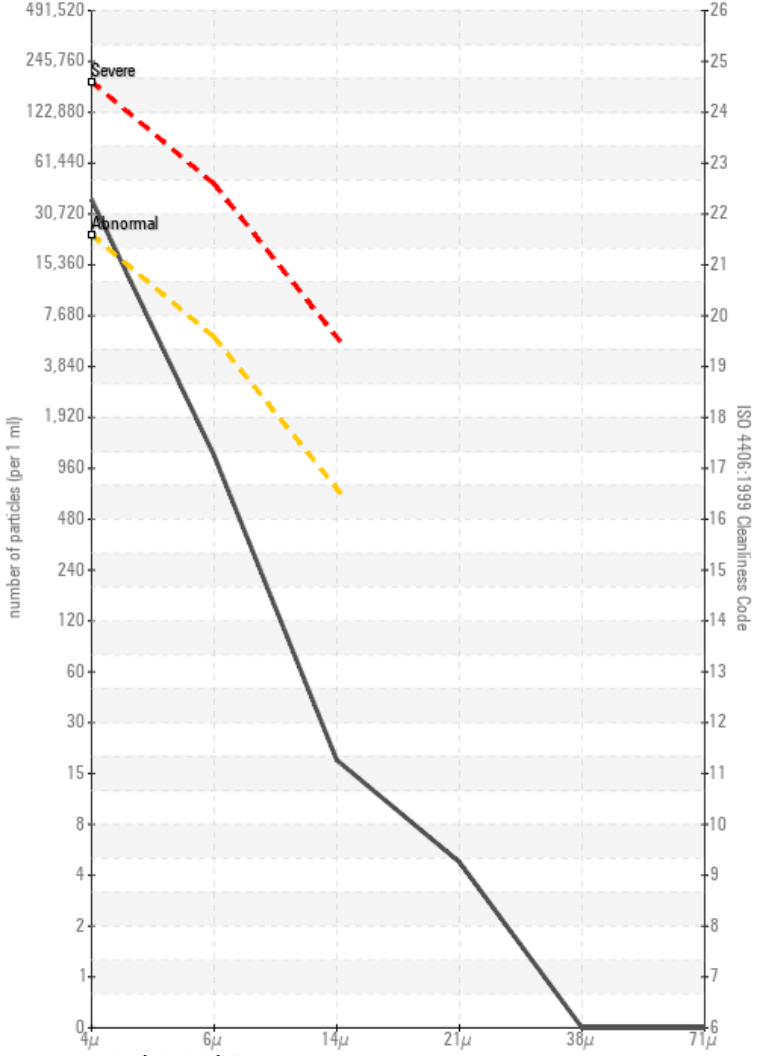
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

