

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A944BHD 023921-744 - Hydraulic System

Sample No: LH0273251

Oil Type: CONOCO PHILLIPS GUARDOL ECT 15W40



SAMPLE INFORMATION

Sample Number	LH0273251	LH0244377	LH0208108	LH0166517
Sample Date	25 Jan 2024	28 Dec 2022	20 Jun 2022	10 Nov 2021
Machine Hours	46350	44397	42863	41239
Oil Hours	0	0	300	0
Oil Changed	Not Changd	Not Changd	Changed	Not Changd
Sample Status	NORMAL	NORMAL	ATTENTION	NORMAL

NILES IRON & METAL CO. INC.

P.O. BOX 166

NILES, OH

US 44446

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OIL CONDITION

Visc @ 40°C	cSt	67.6	68.8	70.9	71.6
Acid Number (AN)	mg KOH/g	1.83	1.32	1.78	1.956



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		2526	2753	21516	14294
Particles >6µm		112	112	1964	728
Particles >14µm		5	8	53	10
ISO 4406:1999 (c)		19/14/10	19/14/10	22/18/13	21/17/10
Silicon	ppm	2	3	2	4
Sodium	ppm	0	3	3	1
Potassium	ppm	3	<1	1	1

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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	6	8	7	6
Copper	ppm	2	2	1	1
Lead	ppm	0	<1	<1	<1
Tin	ppm	0	<1	0	0
Aluminum	ppm	2	1	1	<1
Chromium	ppm	6	8	6	4
Molybdenum	ppm	36	34	38	48
Nickel	ppm	0	0	0	0
Titanium	ppm	5	6	4	3
Silver	ppm	0	0	0	<1
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	<1



ADDITIVES

Calcium	ppm	1515	1755	1577	1866
Magnesium	ppm	526	536	415	327
Zinc	ppm	1156	1189	1123	1112
Phosphorus	ppm	919	1068	974	1054
Barium	ppm	5	0	0	0
Boron	ppm	69	99	98	105

Depot: NILNIL

Unique No: 10869403

Signed: Don Baldrige

Report Date: 08 Feb 2024

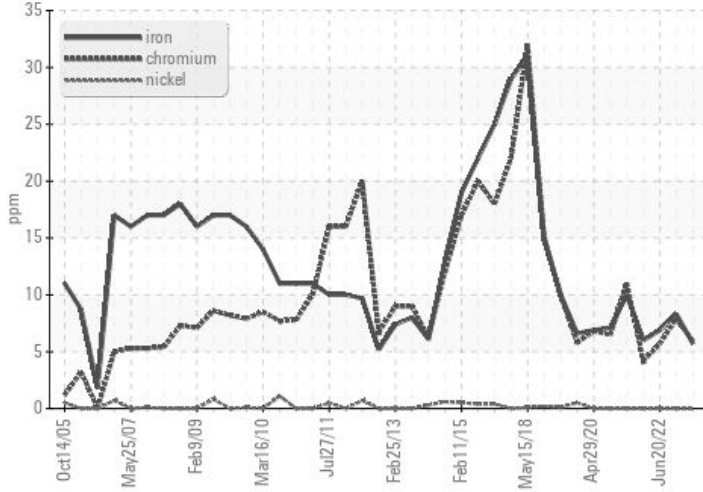
LIEBHERR

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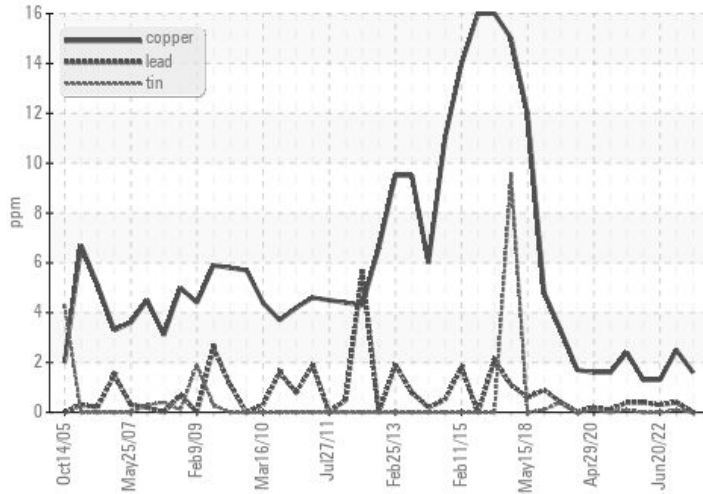


GRAPHS

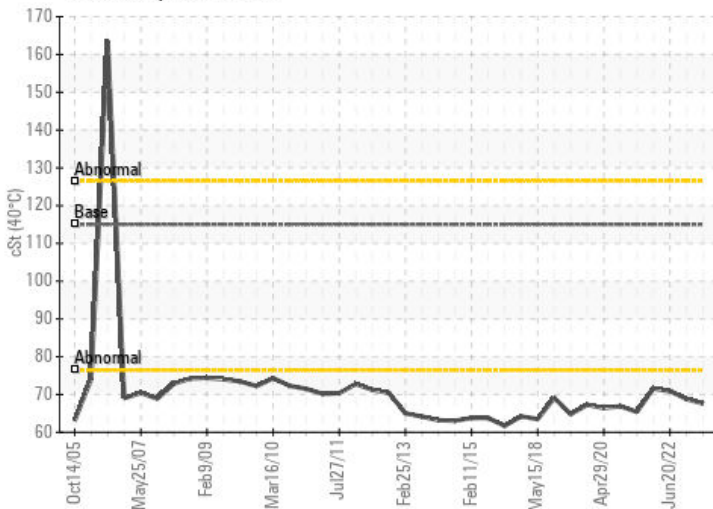
Ferrous Alloys



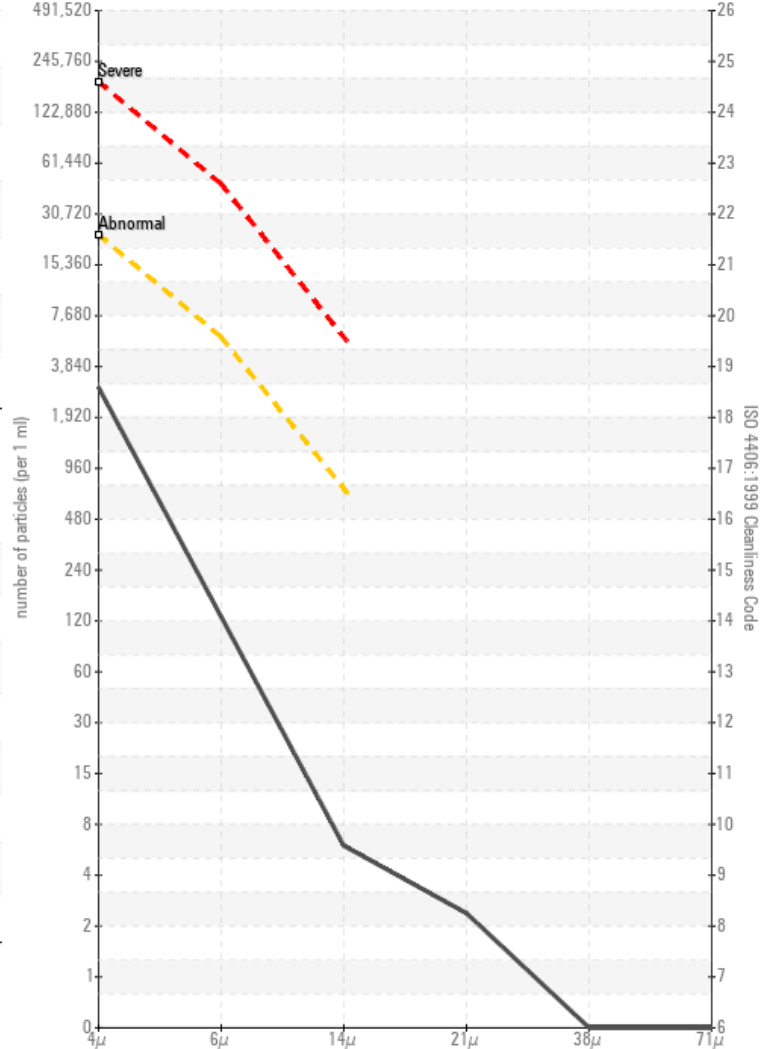
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

