

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R936 040489-1148 - Hydraulic System

Sample No: LH0229685

Oil Type: LIEBHERR HYDRAULIC HVI



Sample Information

Sample Number	LH0229685	LH0267375	LH0244009	LHMC104038
Sample Date	21 Mar 2024	30 Aug 2023	21 May 2023	27 Jul 2022
Machine Hours	9014	8524	8050	6871
Oil Hours	0	0	0	0
Oil Changed	Not Chngd	Not Chngd	Not Chngd	Not Chngd
Sample Status	NORMAL	ATTENTION	MARGINAL	MARGINAL

ACECO

10119 RESIDENCY ROAD
MANASSAS, VA
US 20110
Contact: RON BROCK



Oil Condition

Visc @ 40°C	cSt	43.8	44.1	44.4	44.7
Acid Number (AN)	mg KOH/g	1.08	1.687	1.11	1.05

T: (703)392-0111
F: (703)331-5604



Contamination

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		18167	21213	12700	2453
Particles >6µm		2177	4213	3554	195
Particles >14µm		94	237	247	10
ISO 4406:1999 (c)		21/18/14	22/19/15	21/19/15	18/15/10
Silicon	ppm	5	5	5	4
Sodium	ppm	1	2	2	3
Potassium	ppm	2	2	<1	0

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.



Wear Metals

Iron	ppm	16	14	14	20
Copper	ppm	13	13	15	34
Lead	ppm	<1	0	0	<1
Tin	ppm	<1	0	0	<1
Aluminum	ppm	2	<1	2	4
Chromium	ppm	6	4	3	4
Molybdenum	ppm	<1	0	<1	<1
Nickel	ppm	<1	0	0	0
Titanium	ppm	<1	0	0	0
Silver	ppm	0	0	0	<1
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	<1	<1	0	0



Additives

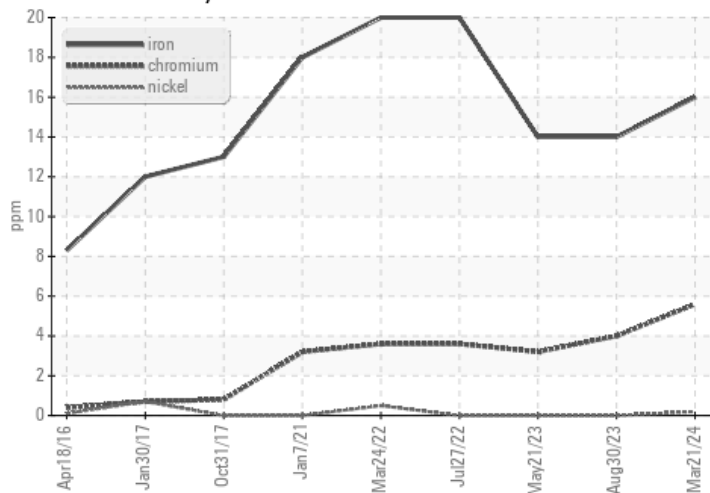
Calcium	ppm	1267	1336	1345	1203
Magnesium	ppm	8	4	8	12
Zinc	ppm	663	648	697	622
Phosphorus	ppm	585	551	644	547
Barium	ppm	<1	0	0	<1
Boron	ppm	0	0	0	2

Depot: ACEMAN
Unique No: 11002636
Signed: Wes Davis
Report Date: 29 Apr 2024

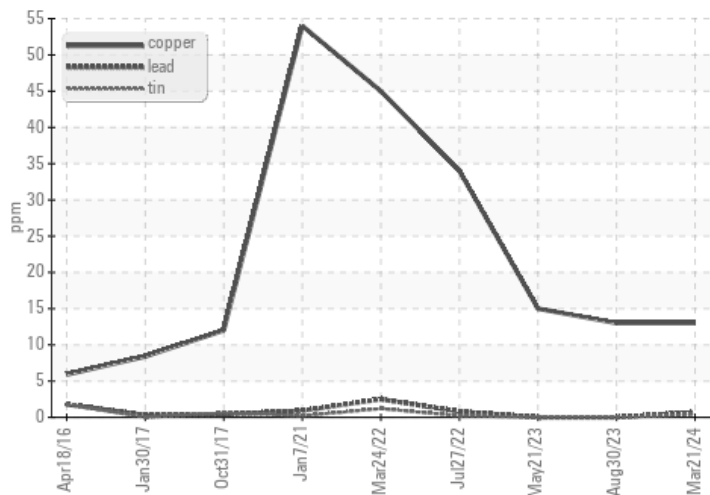


Graphs

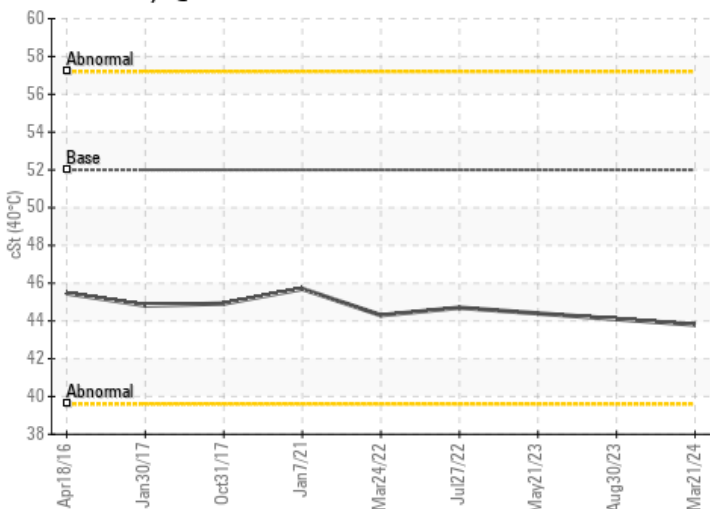
Ferrous Alloys



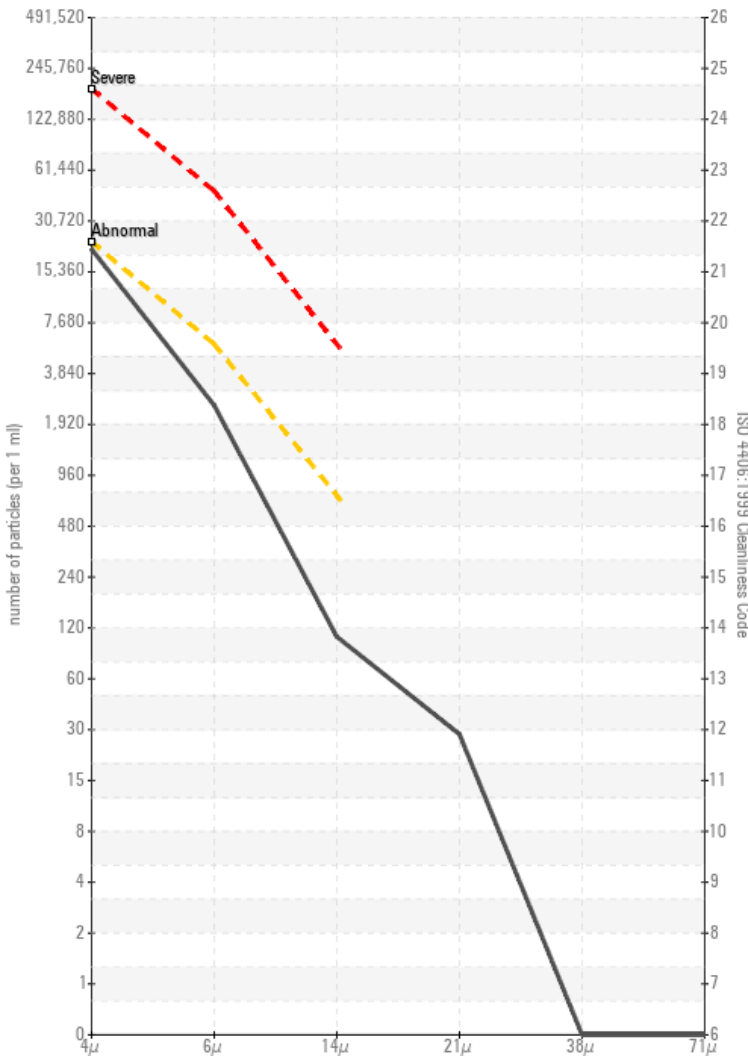
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

