LIEBHERR
CONSTRUCTION EQUIPMENT

[[SCP DRILLING]] LIEBHERR LR622 008331-392 - Hydraulic Sy

Sample No: LH0272932

Oil Type: AW HYDRAULIC OIL ISO 68

LIEBHERR EQUIPMENT SOURCE
10119 RESIDENCY ROAD
MANASSAS, VA
US 20110
Contact: TOM HEINEY
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SAMPLE INFORMATION

Sample Number		**LH0272932**	LHMC023337	LHMC023945	LHMC016580
Sample Date		**31 Jan 2024**	07 Aug 2008	26 Apr 2008	16 Nov 2007
Machine Hours		**0**	1448	917	131
Oil Hours		**0**	0	917	0
Oil Changed		**Not Changd**	Not Changd	Not Changd	Not Changd
Sample Status		**ATTENTION**	ABNORMAL	NORMAL	ABNORMAL

OIL CONDITION

Visc @ 40°C	cSt	**53.03**	63.6	64.99	67.19
Acid Number (AN)	mg KOH/g	**0.45**	1.08	1.21	1.10

CONTAMINATION

Water	%	**NEG**	NEG	NEG	NEG
Particles >4µm		**24555**	---	275	15782
Particles >6µm		**5327**	---	150	8597
Particles >14µm		**50**	---	25	1464
ISO 4406:1999 (c)		**22/20/13**	---	15/14/12	21/20/18
Silicon	ppm	**2**	2	<1	4
Sodium	ppm	**4**	3	5	6
Potassium	ppm	**4**	0	1	0

WEAR METALS

Iron	ppm	**4**	4	4	2
Copper	ppm	**6**	8	8	3
Lead	ppm	**2**	2	<1	0
Tin	ppm	**<1**	0	0	0
Aluminum	ppm	**1**	<1	<1	<1
Chromium	ppm	**<1**	<1	<1	<1
Molybdenum	ppm	**3**	0	<1	<1
Nickel	ppm	**<1**	<1	<1	<1
Titanium	ppm	**0**	<1	0	<1
Silver	ppm	**<1**	0	0	0
Manganese	ppm	**2**	<1	<1	<1
Vanadium	ppm	**0**	0	0	0

ADDITIVES

Calcium	ppm	**134**	2028	1740	1796
Magnesium	ppm	**80**	18	16	16
Zinc	ppm	**400**	502	522	551
Phosphorus	ppm	**325**	395	466	494
Barium	ppm	**0**	0	<1	0
Boron	ppm	**5**	50	47	50

Diagnosis

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The oil viscosity is lower than normal. Confirm oil type. The AN level is acceptable for this fluid.

Depot: LIEBHERRVA
Unique No: 10861146
Signed: Jonathan Hester
Report Date: 08 Feb 2024

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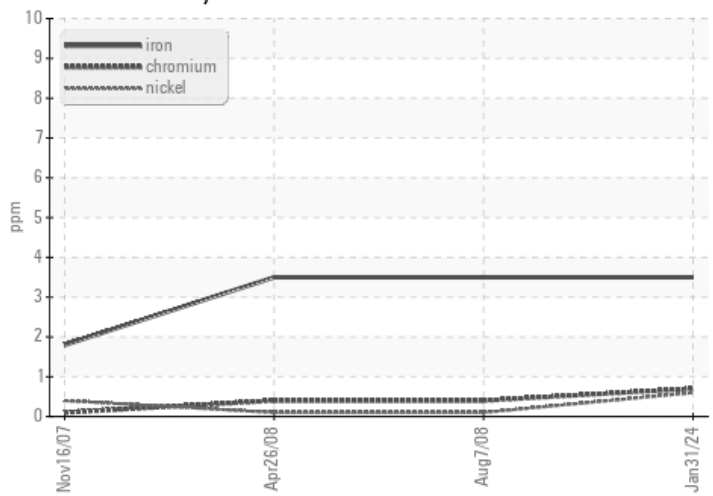
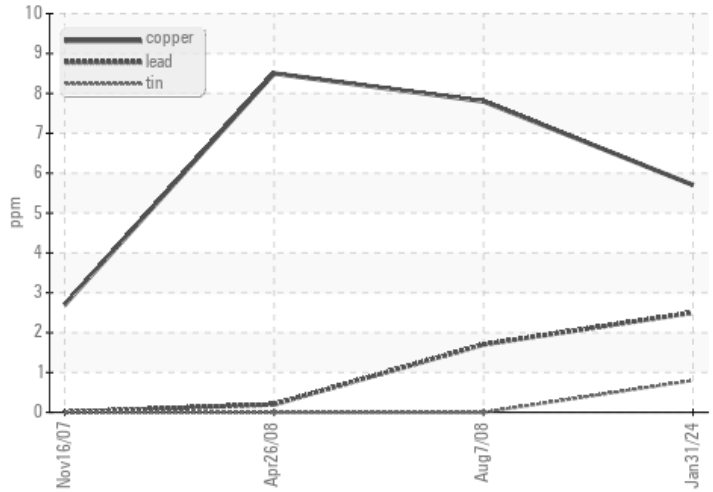
GRAPHS

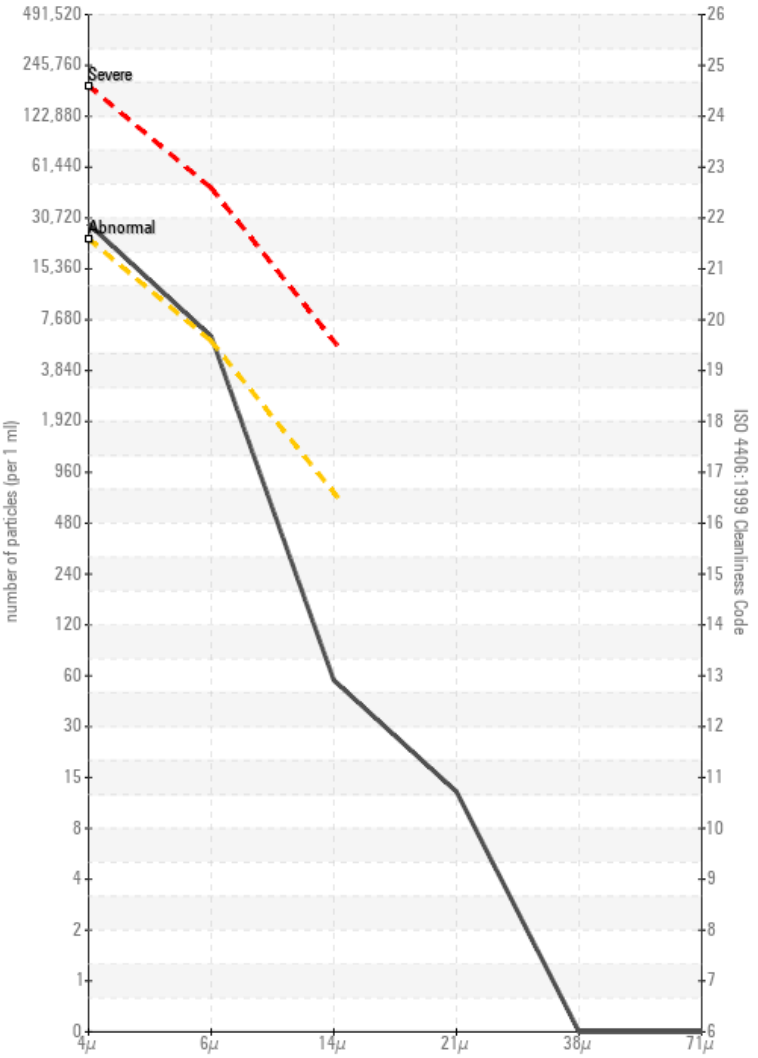
Ferrous Alloys



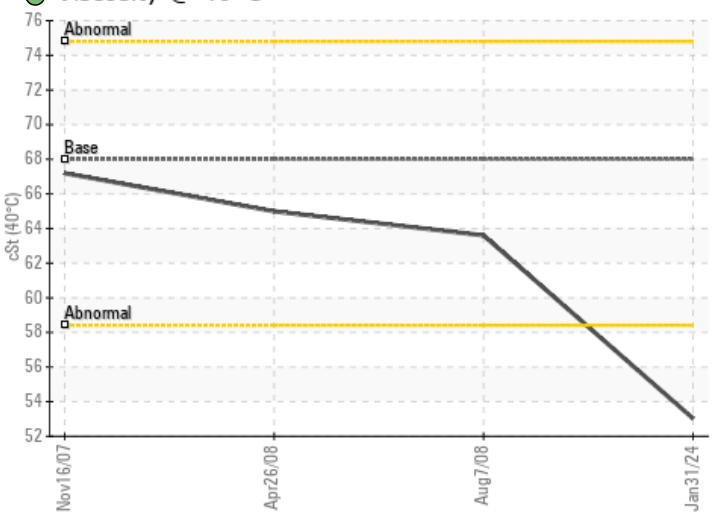
Non-ferrous Metals



Particle Count



Viscosity @ 40°C



Acid Number