LIEBHERR
CONSTRUCTION EQUIPMENT

LIEBHERR L586 050030-1334 - Hydraulic System

Sample No: LH0272206

Oil Type: LIEBHERR HYDRAULIC HVI

BENEVENTO SAND & STONE
900 SALEM STREET PO Box 454
WILMINGTON, MA
US 01887
Contact: Service Manager

T:
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Sample Information

Sample Number		**LH0272206**	LH0244438	LH0229221	LH0217427
Sample Date		**06 May 2024**	12 Apr 2023	05 Dec 2022	15 Mar 2022
Machine Hours		**15794**	13015	12170	10006
Oil Hours		**15794**	13015	12170	10006
Oil Changed		**Not Changd**	Filtered	Filtered	Filtered
Sample Status		**ABNORMAL**	ABNORMAL	ABNORMAL	ABNORMAL

Oil Condition

Visc @ 40°C	cSt	**44.7**	45.0	45.3	47.5
Acid Number (AN)	mg KOH/g	**0.93**	0.74	0.95	0.95

Contamination

Water	%	**NEG**	NEG	NEG	NEG
Particles >4µm		**41872**	25830	48029	40262
Particles >6µm		**859**	629	6204	1766
Particles >14µm		**18**	23	64	18
ISO 4406:1999 (c)		**23/17/11**	22/16/12	23/20/13	23/18/11
Silicon	ppm	**33**	40	38	35
Sodium	ppm	**2**	3	4	2
Potassium	ppm	**6**	2	6	6

Wear Metals

Iron	ppm	**36**	44	38	35
Copper	ppm	**4**	5	6	5
Lead	ppm	**4**	5	8	7
Tin	ppm	**1**	0	<1	<1
Aluminum	ppm	**14**	13	17	14
Chromium	ppm	**2**	3	3	2
Molybdenum	ppm	**3**	2	2	2
Nickel	ppm	**<1**	0	0	0
Titanium	ppm	**2**	1	1	1
Silver	ppm	**<1**	0	0	<1
Manganese	ppm	**1**	<1	<1	<1
Vanadium	ppm	**<1**	0	<1	0

Additives

Calcium	ppm	**2016**	2216	2270	2207
Magnesium	ppm	**23**	30	26	22
Zinc	ppm	**950**	1006	949	990
Phosphorus	ppm	**815**	779	784	784
Barium	ppm	**0**	0	0	0
Boron	ppm	**37**	44	45	45

Diagnosis

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 high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal indicating ingress of seal material. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Depot: BENWILLH
Unique No: 11034635
Signed: Don Baldridge
Report Date: 21 May 2024

Report Id: BENWILLH [WUSCAR] 06183309 (Generated: 05/21/2024 18:21:47) Rev: 1

Submitted By: MIKE MACKINNON

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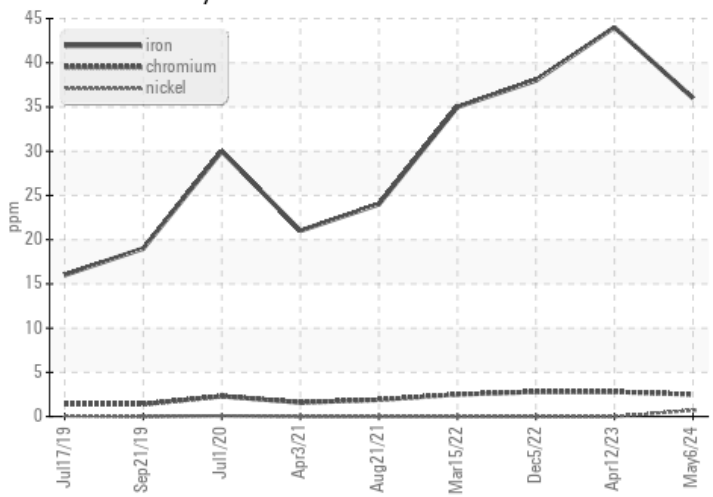
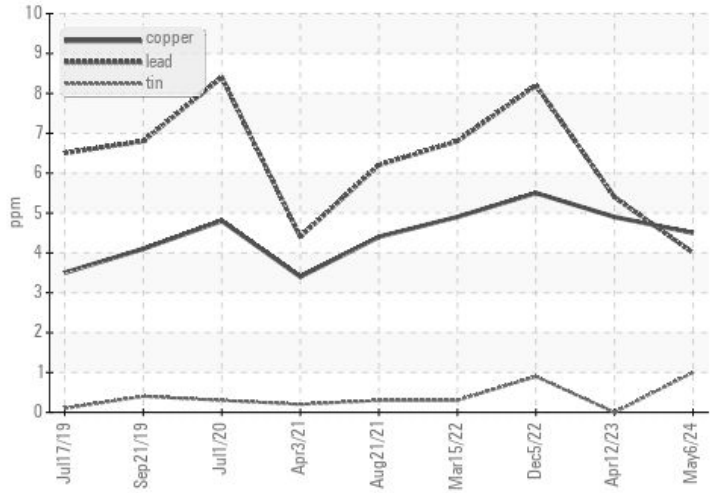
Graphs

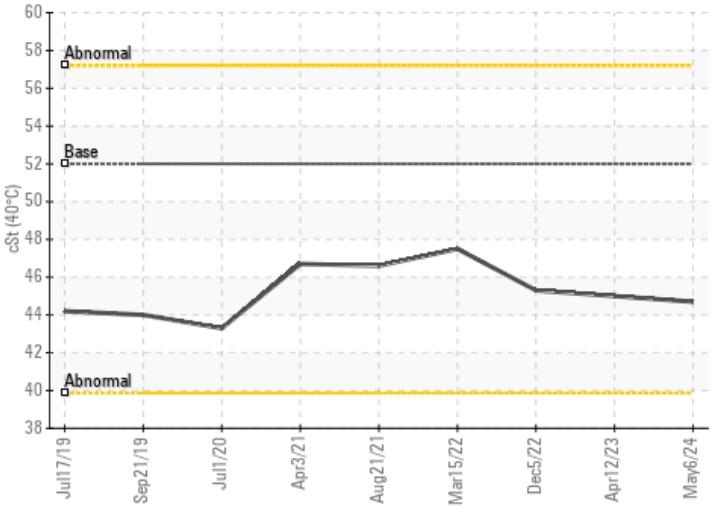
Ferrous Alloys



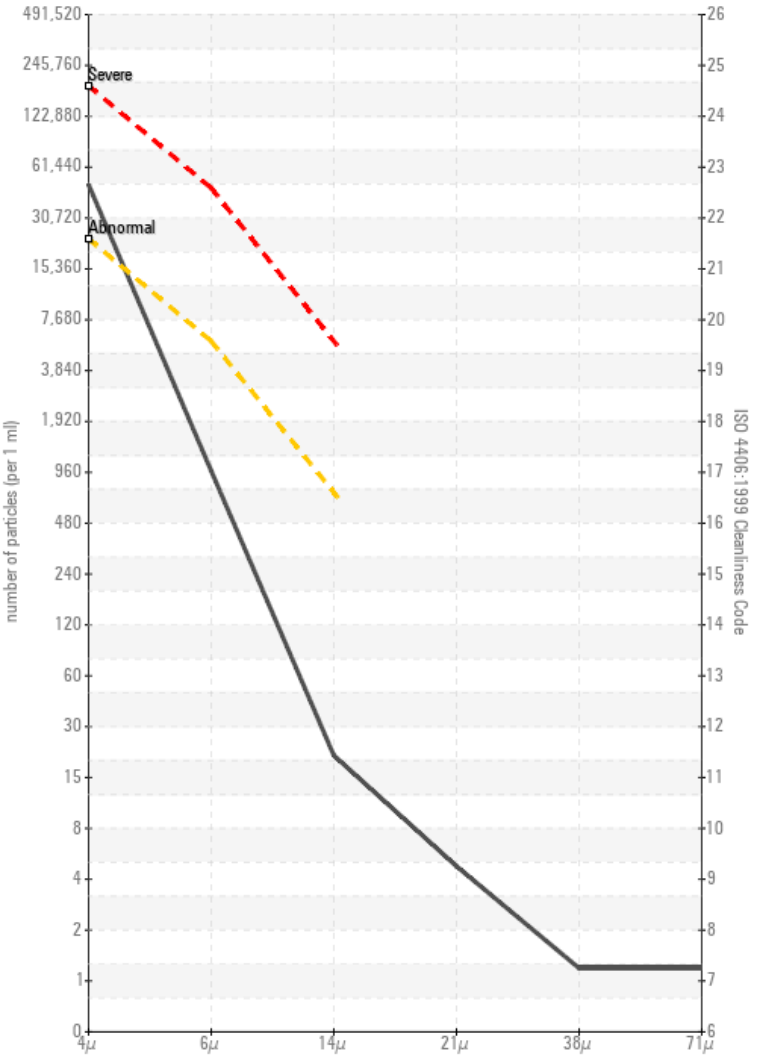
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number