

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR A934 047548-1007 - Front Differential

Sample No: LH0266981

Oil Type: HARTLAND 80W90 LS



NORTHERN METAL RECYCLING
 2800 PACIFIC ST N
 MINNEAPOLIS, MN
 US 55411
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Sample Information

Sample Number	LH0266981	LH0220520	LH0220545	LH0190676
Sample Date	17 May 2024	30 May 2023	07 Nov 2022	01 Sep 2021
Machine Hours	33496	31696	30241	28529
Oil Hours	1000	1000	1000	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL



Oil Condition

Visc @ 40°C	cSt	137	140	146	196
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Contamination

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	1	0	0	<1
Sodium	ppm	1	<1	0	2
Potassium	ppm	0	<1	2	9



Wear Metals

Iron	ppm	4	5	5	2
Copper	ppm	2	3	4	2
Lead	ppm	0	0	<1	2
Tin	ppm	0	0	0	0
Aluminum	ppm	0	0	<1	<1
Chromium	ppm	0	0	0	<1
Molybdenum	ppm	2	2	1	0
Nickel	ppm	0	0	0	<1
Titanium	ppm	<1	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	0
Vanadium	ppm	<1	0	0	0



Additives

Calcium	ppm	45	66	90	2
Magnesium	ppm	0	13	14	0
Zinc	ppm	16	33	43	2
Phosphorus	ppm	993	827	747	2034
Barium	ppm	0	0	2	0
Boron	ppm	4	14	23	36

Diagnosis

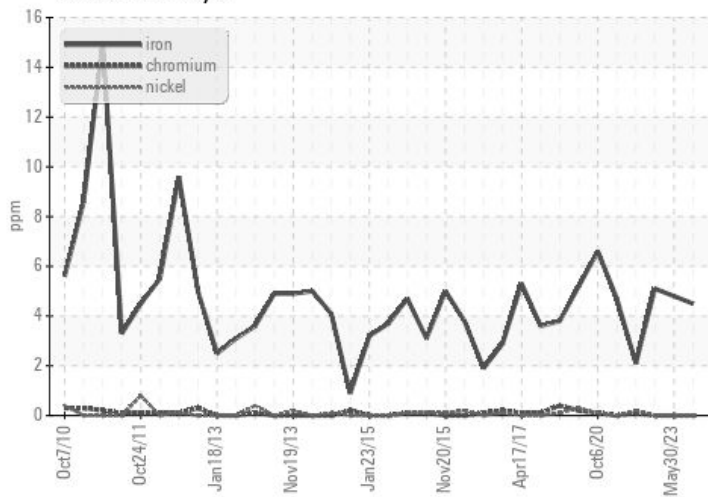
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: NORMINLH
 Unique No: 11061713
 Signed: Wes Davis
 Report Date: 05 Jun 2024

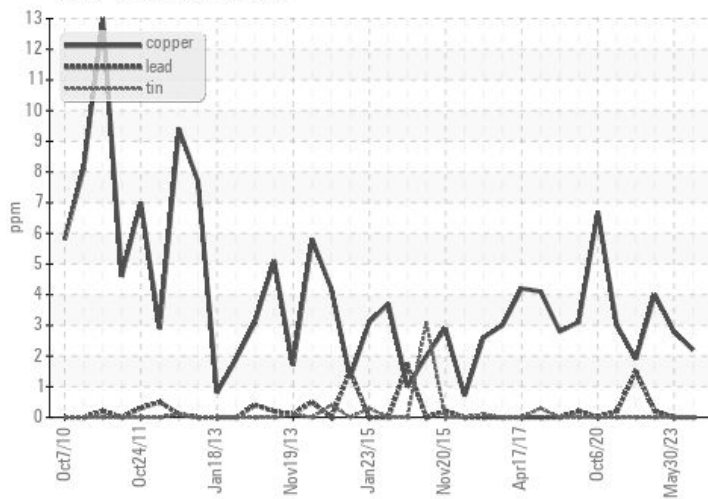


Graphs

Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C

