LIEBHERR
CONSTRUCTION EQUIPMENT

LIEBHERR PR766 027906-1681 - Right Final Drive

Sample No: LH0264292

Oil Type: GEAR OIL SAE 90W140

HEAVY MACHINES INC.
3930 EAST RAINES RD
MEMPHIS, TN
US 38118
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Sample Information

Sample Number		**LH0264292**	LH0254477	LH0254552	LH0254258
Sample Date		**31 May 2024**	01 May 2024	03 Apr 2024	07 Mar 2024
Machine Hours		**2848**	2148	1518	882
Oil Hours		**698**	2148	1518	882
Oil Changed		**Not Changd**	Changed	Not Changd	Not Changd
Sample Status		**SEVERE**	SEVERE	ABNORMAL	ABNORMAL

Oil Condition

Visc @ 40°C	cSt	**345**	293	295	298

Contamination

Water	%	**NEG**	NEG	NEG	NEG
Silicon	ppm	**4**	11	13	12
Sodium	ppm	**1**	3	3	2
Potassium	ppm	**<1**	2	<1	2

Wear Metals

Iron	ppm	**34**	102	87	69
Copper	ppm	**453**	423	234	86
Lead	ppm	**<1**	<1	0	<1
Tin	ppm	**11**	14	7	2
Aluminum	ppm	**2**	1	1	2
Chromium	ppm	**<1**	<1	<1	1
Molybdenum	ppm	**<1**	2	2	3
Nickel	ppm	**<1**	0	0	<1
Titanium	ppm	**<1**	0	<1	<1
Silver	ppm	**0**	0	0	0
Manganese	ppm	**<1**	2	2	2
Vanadium	ppm	**0**	0	0	<1

Additives

Calcium	ppm	**9**	47	34	41
Magnesium	ppm	**5**	4	2	2
Zinc	ppm	**27**	62	42	40
Phosphorus	ppm	**1029**	1203	1154	1065
Barium	ppm	**13**	74	78	86
Boron	ppm	**3**	2	2	3

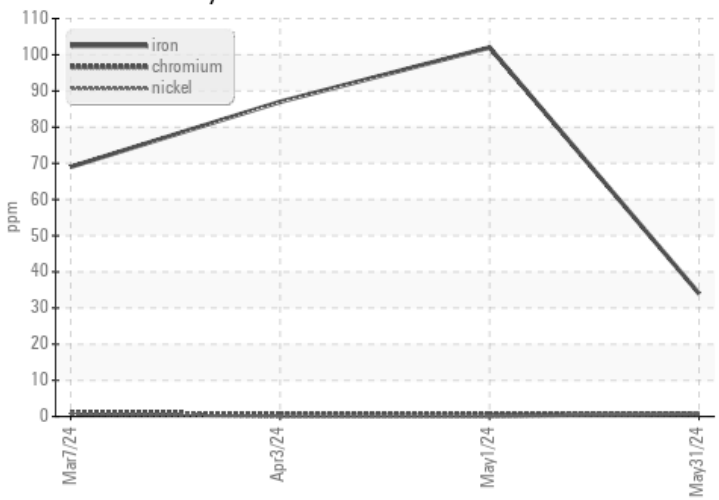
Diagnosis

We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.The copper level is severe for time on oil. Bearing and/or bushing wear is indicated. There is no indication of any contamination in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

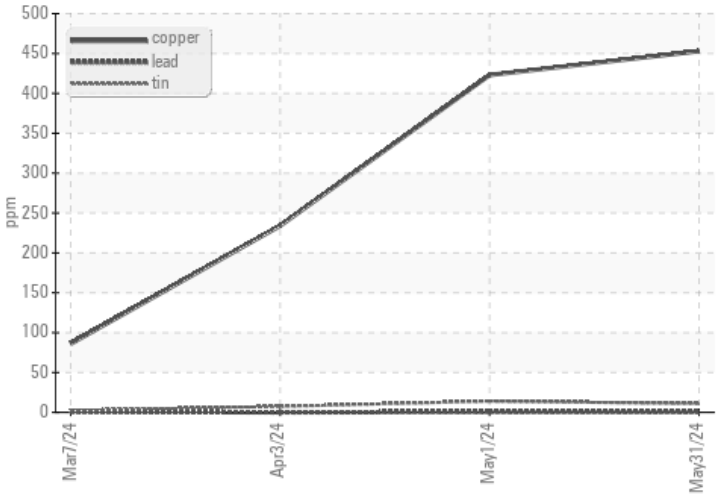
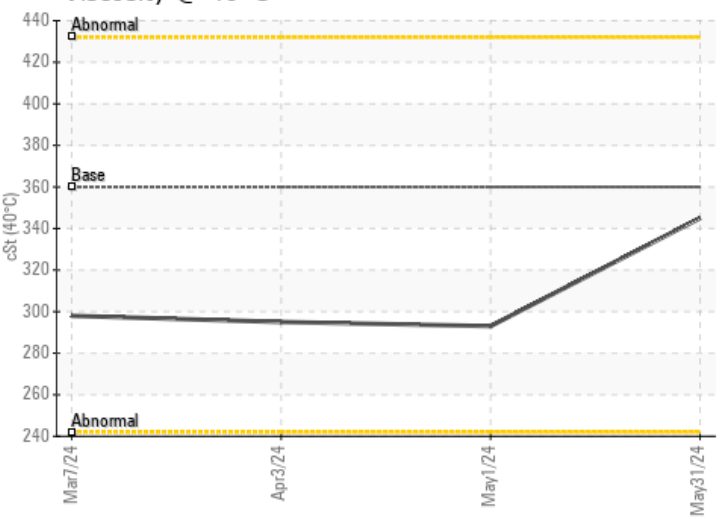
Depot: LEC0051
Unique No: 11084981
Signed: Don Baldridge
Report Date: 19 Jun 2024

Graphs

Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C