

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R938 050294-1650 - Swing Drive

Sample No: LH0172358

Oil Type: GEAR OIL SAE 75W90



MOOREFIELD EXCAVATING LTD.
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SAMPLE INFORMATION

Sample Number	LH0172358	LH0172349	LH0257076	LH0172322
Sample Date	03 Jan 2024	11 Jul 2023	21 Mar 2023	14 Oct 2021
Machine Hours	4951	4478	4098	2273
Oil Hours	0	0	0	0
Oil Changed	Changed	Not Changd	Changed	Changed
Sample Status	ABNORMAL	NORMAL	ABNORMAL	NORMAL



OIL CONDITION

Visc @ 40°C	cSt	102	102	94.5	102
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CONTAMINATION

Water	%	0.179	NEG	NEG	NEG
Silicon	ppm	6	3	2	<1
Sodium	ppm	<1	1	2	<1
Potassium	ppm	4	<1	<1	1



WEAR METALS

PQ		0	---	0	---
Iron	ppm	1181	460	1179	748
Copper	ppm	<1	<1	<1	<1
Lead	ppm	0	<1	<1	<1
Tin	ppm	0	0	0	0
Aluminum	ppm	1	<1	0	<1
Chromium	ppm	14	5	12	9
Molybdenum	ppm	0	<1	<1	0
Nickel	ppm	<1	<1	<1	<1
Titanium	ppm	0	0	<1	0
Silver	ppm	0	0	0	<1
Manganese	ppm	8	3	9	8
Vanadium	ppm	0	0	<1	0



ADDITIVES

Calcium	ppm	9	10	15	8
Magnesium	ppm	1	2	0	0
Zinc	ppm	10	10	11	10
Phosphorus	ppm	1255	1340	1412	815
Barium	ppm	0	<1	0	0
Boron	ppm	178	228	62	3

Diagnosis

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Chromium and iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is a trace of moisture present in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: MOOPAL
 Unique No: 5709376
 Signed: Kevin Marson
 Report Date: 15 Jan 2024



GRAPHS

