LIEBHERR
CONSTRUCTION EQUIPMENT

[[577894]] LIEBHERR R934CEW 036784-027 - Left Planetary

Sample No: LH0269708

Oil Type: GEAR OIL SAE 90

SAMPLE INFORMATION

Sample Number		**LH0269708**	LH0124812	LH0104774	LH0104750
Sample Date		**08 Nov 2023**	15 Feb 2018	06 Sep 2016	12 May 2016
Machine Hours		**5342**	7813	4957	4368
Oil Hours		**0**	0	0	0
Oil Changed		**N/A**	Changed	Changed	Changed
Sample Status		**ABNORMAL**	SEVERE	ABNORMAL	ABNORMAL

OIL CONDITION

Visc @ 40°C	cSt	**97.6**	◯ 1409	◯ 92.5	◯ 83.8

CONTAMINATION

Water	%	**---**	◯ 0.607	---	---
Silicon	ppm	● 268	● 3350	● 270	◯ 702
Sodium	ppm	● 8	◯ 72	● 8	● 16
Potassium	ppm	● 11	◯ 134	● 11	● 34

WEAR METALS

PQ		● 104	● 1406	---	◯ 847
Iron	ppm	◯ 2117	● 7484	● 1072	◯ 1571
Copper	ppm	● 40	● 268	● 55	● 92
Lead	ppm	● 2	◯ 14	● 2	● 5
Tin	ppm	● 1	● 19	● 2	● 5
Aluminum	ppm	● 37	◯ 495	● 39	◯ 122
Chromium	ppm	● 24	● 121	● 17	◯ 27
Molybdenum	ppm	● 2	● 10	● 1	● 2
Nickel	ppm	● 4	● 21	● 2	● 4
Titanium	ppm	2	◯ 34	3	8
Silver	ppm	<1	<1	<1	0
Manganese	ppm	19	● 80	● 10	● 14
Vanadium	ppm	0	2	<1	<1

ADDITIVES

Calcium	ppm	● 78	◯ 850	373	594
Magnesium	ppm	● 11	◯ 102	● 10	● 27
Zinc	ppm	● 37	● 143	● 168	266
Phosphorus	ppm	● 1254	● 1082	● 1270	● 1183
Barium	ppm	● 1	● 2	● 2	● 6
Boron	ppm	● 105	● 260	● 176	● 183

RICHMOND STEEL RECYCLING
11760 MITCHELL ROAD
RICHMOND, BC
CA V6V 1V8
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Diagnosis

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. Iron ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is no indication of any contamination in the oil. Viscosity of sample indicates oil is within SAE 75W90 range, advise investigate. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot:	RIC117RIC
Unique No:	5672726
Signed:	Bill Quesnel
Report Date:	11 Nov 2023

GRAPHS

Iron (ppm)

Lead (ppm)

Aluminum (ppm)

Chromium (ppm)

Copper (ppm)

Silicon (ppm)

Viscosity @ 40°C

PQ