

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH60C106512-1528 - Right Final Drive

Sample No: LH0288229

Oil Type: LIEBHERR GEAR BASIC 90 LS



Gerdau - Mandak Metal Processors Ltd.,
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 Selkirk, MB
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Sample Information

Sample Number	LH0288229	LH0278581	LH	LH0234442
Sample Date	29 Apr 2024	05 Jan 2024	23 Aug 2023	12 Jun 2023
Machine Hours	23144	21976	0	19187
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	SEVERE	NORMAL	NORMAL	NORMAL



Oil Condition

Visc @ 40°C	cSt	214	194	180	177
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Contamination

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	287	<1	17	13
Sodium	ppm	12	<1	2	2
Potassium	ppm	14	<1	1	1



Wear Metals

PQ		512	---	---	---
Iron	ppm	833	<1	62	42
Copper	ppm	21	0	3	4
Lead	ppm	3	0	<1	<1
Tin	ppm	1	0	0	0
Aluminum	ppm	70	<1	6	4
Chromium	ppm	12	0	<1	<1
Molybdenum	ppm	0	0	0	0
Nickel	ppm	8	0	1	<1
Titanium	ppm	5	0	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	29	0	3	2
Vanadium	ppm	<1	0	<1	0



Additives

Calcium	ppm	412	2	81	55
Magnesium	ppm	140	<1	18	13
Zinc	ppm	19	2	7	8
Phosphorus	ppm	2210	2238	2369	2317
Barium	ppm	2	0	0	0
Boron	ppm	3	<1	2	5

Diagnosis

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. PQ levels are severe. Chromium and iron and nickel ppm levels are abnormal. Aluminum ppm levels are noted. Gear wear is indicated. The very high ferrous density (PQ) index indicates that severe wear is occurring. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component. Viscosity of sample indicates oil is within SAE 80W90 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: MANSEL
 Unique No: 5774440
 Signed: Kevin Marson
 Report Date: 05 May 2024

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Graphs

