

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### 053987-1650 - Right Final Drive

Sample No: LH0274053

Oil Type: GEAR OIL SAE 75W90



#### SAMPLE INFORMATION

Sample Number	LH0274053	LH0250893	LH0250891	LH0227227
Sample Date	02 Oct 2023	31 Jan 2023	31 Jan 2023	19 Sep 2022
Machine Hours	2037	1076	1076	540
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	SEVERE	NORMAL	NORMAL	NORMAL

**Delsan - American Iron and Metal**  
 2187 Montee Masson  
 Laval, QC  
 CA H7B 0A6  
 Contact: MANNY MARQUES  
 mmarques@delsan-aim.com  
 T:  
 F:



#### OIL CONDITION

Visc @ 40°C	cSt	232	179	173	192
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#### CONTAMINATION

Element	Unit	3173	<1	235	4
Silicon	ppm	3173	<1	235	4
Sodium	ppm	172	2	12	6
Potassium	ppm	280	0	28	4



#### WEAR METALS

Element	Unit	2438	---	---	---
PQ		2438	---	---	---
Iron	ppm	5650	213	203	133
Copper	ppm	3	<1	<1	<1
Lead	ppm	1	0	<1	<1
Tin	ppm	0	0	0	0
Aluminum	ppm	777	<1	76	1
Chromium	ppm	74	3	3	3
Molybdenum	ppm	2	<1	<1	0
Nickel	ppm	8	<1	1	<1
Titanium	ppm	50	0	5	<1
Silver	ppm	<1	<1	0	4
Manganese	ppm	56	3	3	2
Vanadium	ppm	2	0	<1	0



#### ADDITIVES

Element	Unit	1593	8	157	13
Calcium	ppm	1593	8	157	13
Magnesium	ppm	212	<1	23	<1
Zinc	ppm	18	5	16	18
Phosphorus	ppm	2067	2333	2177	1430
Barium	ppm	9	1	3	14
Boron	ppm	11	2	22	6

#### 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. Chromium and iron ppm levels are severe. PQ levels are severe. Titanium 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 80W140 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:** DEL782MON  
**Unique No:** 5657828  
**Signed:** Kevin Marson  
**Report Date:** 13 Oct 2023



### GRAPHS

