## LIEBHERR





Sample No: LH0229493

Oil Type: SUPER S 80W90 LS

| SAMPLE INFORMATION |             |             |             |             |  |  |
|--------------------|-------------|-------------|-------------|-------------|--|--|
| Sample Number      | LH0229493   | DJJ0000832  | DJJ028707   | DJJ028756   |  |  |
| Sample Date        | 12 Jul 2023 | 19 Nov 2019 | 22 Jun 2018 | 05 Dec 2017 |  |  |
| Machine Hours      | 12515       | 9434        | 8148        | 7510        |  |  |
| Oil Hours          | 500         | 500         | 500         | 500         |  |  |
| Oil Changed        | Changed     | Changed     | Changed     | Changed     |  |  |
| Sample Status      | ATTENTION   | ATTENTION   | NORMAL      | NORMAL      |  |  |
| <b>A</b>           |             |             |             |             |  |  |

| OIL CO         | ONDITION |             |      |         |         |
|----------------|----------|-------------|------|---------|---------|
| Visc @ 40°C    | cSt      | <b>96.6</b> | 93.5 | O 123.3 | ○ 138.9 |
| and the second |          |             |      |         |         |

| CONT      | CONTAMINATION |             |          |          |          |  |  |  |
|-----------|---------------|-------------|----------|----------|----------|--|--|--|
| Silicon   | ppm           | <b>8</b>    | <b>4</b> | <b>4</b> | <b>4</b> |  |  |  |
| Sodium    | ppm           | <b>0</b> <1 | O <1     | <b>1</b> | <b>1</b> |  |  |  |
| Potassium | ppm           | <b>3</b>    | O 1      | <b>3</b> | <b>6</b> |  |  |  |

| WEA        | R METALS |             |      |          |          |
|------------|----------|-------------|------|----------|----------|
| Iron       | ppm      | <b>21</b>   | O 12 | O 21     | O 27     |
| Copper     | ppm      | <b>2</b>    | O <1 | O <1     | O <1     |
| Lead       | ppm      | <b>0</b>    | O <1 | <b>1</b> | O <1     |
| Tin        | ppm      | <b>0</b>    | 0    | 0        | O 0      |
| Aluminum   | ppm      | <b>4</b>    | O 1  | O 2      | <b>4</b> |
| Chromium   | ppm      | <b>○</b> <1 | 0    | O <1     | O <1     |
| Molybdenum | ppm      | 27          | O 1  | O <1     | O <1     |
| Nickel     | ppm      | <b>0</b>    | 0    | O <1     | O 0      |
| Titanium   | ppm      | <1          | <1   | <1       | <1       |
| Silver     | ppm      | 0           | 0    | 0        | <1       |
| Manganese  | ppm      | <1          | O <1 | O <1     | O <1     |
| Vanadium   | ppm      | 0           | 0    | 0        | 0        |

| ADDI       | ITIVES |     |          |     |     |  |
|------------|--------|-----|----------|-----|-----|--|
| Calcium    | ppm    | 692 | O 21     | 14  | 19  |  |
| Magnesium  | ppm    | 23  | <b>3</b> | O 0 | 0 2 |  |
| Zinc       | ppm    | 378 | <b>6</b> | 36  | 45  |  |
| Phosphorus | ppm    | 594 | ○ 377    | 608 | 730 |  |
| Barium     | ppm    | 0   | O 0      | O 0 | O 2 |  |
| Boron      | ppm    | 16  | 0 8      | 21  | 19  |  |



METAL RECYCLING SERVICES - GASTONIA 5401 S YORK HWY GASTONIA, NC US 28052 Contact: RYAN BOWDEN

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## Diagnosis

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal.

Depot: METGAS
Unique No: 10562950
Signed: Don Baldridge
Report Date: 20 Jul 2023

## LIEBHERR

**CONSTRUCTION EQUIPMENT** 





## **GRAPHS**

