# LIEBHERR

### **CONSTRUCTION EQUIPMENT**



Sample No: LH0284994

Oil Type: GEAR OIL SAE 80W90

| 5              |          |             |             |             |  |  |
|----------------|----------|-------------|-------------|-------------|--|--|
| SAMI           | PLE INFO | RMATION     |             |             |  |  |
| Sample Number  |          | LH0284994   | LH0251561   | LH0234957   |  |  |
| Sample Date    |          | 22 Feb 2024 | 24 Feb 2023 | 14 Nov 2022 |  |  |
| Machine Hours  |          | 2811        | 934         | 467         |  |  |
| Oil Hours      |          | 0           | 0           | 0           |  |  |
| Oil Changed    |          | Changed     | Changed     | Changed     |  |  |
| Sample Status  |          | NORMAL      | NORMAL      | NORMAL      |  |  |
|                |          |             |             |             |  |  |
| OIL CONDITION  |          |             |             |             |  |  |
| Visc @ 40°C    | cSt      | <b>109</b>  | O 111       | O 181       |  |  |
|                |          |             |             |             |  |  |
| CONTA MINATION |          |             |             |             |  |  |

| CONTAMINATION |     |              |          |          |  |  |  |
|---------------|-----|--------------|----------|----------|--|--|--|
| Water         | %   | NEG          | NEG      | NEG      |  |  |  |
| Silicon       | ppm | <b>4</b>     | <b>2</b> | <b>3</b> |  |  |  |
| Sodium        | ppm | <b>()</b> <1 | O <1     | <b>3</b> |  |  |  |
| Potassium     | ppm | <b>○</b> <1  | O <1     | <b>0</b> |  |  |  |

| (O) WE     |         |              |      |           |  |
|------------|---------|--------------|------|-----------|--|
| ₩ WE       | AR META | LS           |      |           |  |
| Iron       | ppm     | <b>2</b> 1   | O 12 | O 20      |  |
| Copper     | ppm     | 37           | 0 8  | <b>10</b> |  |
| Lead       | ppm     | <b>()</b> <1 | O 0  | O 0       |  |
| Tin        | ppm     | <b>0</b>     | O 0  | O 0       |  |
| Aluminum   | ppm     | <b>()</b> <1 | O <1 | O <1      |  |
| Chromium   | ppm     | <b>0</b>     | O 0  | <b>0</b>  |  |
| Molybdenum | ppm     | <b>0</b>     |      | <b>0</b>  |  |
| Nickel     | ppm     | <b>0</b>     | O <1 | O <1      |  |
| Titanium   | ppm     | <b>0</b>     | O 0  | O 0       |  |
| Silver     | ppm     | 0            | 0    | 0         |  |
| Manganese  | ppm     | <b>0</b>     | O <1 | <1        |  |
| Vanadium   | ppm     | 0            | 0    | 0         |  |
| -          |         |              |      |           |  |

| variadium  | ppm | U           | U           | U         |  |  |
|------------|-----|-------------|-------------|-----------|--|--|
| 0          |     |             |             |           |  |  |
| ADDITIVES  |     |             |             |           |  |  |
| Calcium    | ppm | <b>15</b>   | <b>14</b>   | O 10      |  |  |
| Magnesium  | ppm | <b>6</b>    | <b>6</b>    | O <1      |  |  |
| Zinc       | ppm | <b>34</b>   | ○ 21        | <b>15</b> |  |  |
| Phosphorus | ppm | <b>1195</b> | <b>1286</b> | O 1212    |  |  |
| Barium     | ppm | <b>38</b>   | <b>40</b>   | ○ 335     |  |  |
| Boron      | ppm | <b>259</b>  | O 265       | <b>5</b>  |  |  |



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#### Diagnosis

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 condition of the oil is acceptable for the time in service.

Depot: JOHLON
Unique No: 5734844
Signed: Kevin Marson
Report Date: 23 Feb 2024

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#### **GRAPHS**

