

LIEBHERR

CONSTRUCTION EQUIPMENT



135924 - 1 Hoisting Gearbox

Sample No: LH0264485

Oil Type: GEAR OIL LS 80W90



SAMPLE INFORMATION

| | | | | |
|---------------|-------------|-----|-----|-----|
| Sample Number | LH0264485 | --- | --- | --- |
| Sample Date | 24 Mar 2024 | --- | --- | --- |
| Machine Hours | 0 | --- | --- | --- |
| Oil Hours | 0 | --- | --- | --- |
| Oil Changed | N/A | --- | --- | --- |
| Sample Status | SEVERE | --- | --- | --- |

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OIL CONDITION

| | | | | | |
|-------------|-----|-------|-----|-----|-----|
| Visc @ 40°C | cSt | ● 158 | --- | --- | --- |
|-------------|-----|-------|-----|-----|-----|



CONTAMINATION

| | | | | | |
|-----------|-----|--------|-----|-----|-----|
| Water | % | ● 3.86 | --- | --- | --- |
| Silicon | ppm | ● 324 | --- | --- | --- |
| Sodium | ppm | ● 3 | --- | --- | --- |
| Potassium | ppm | ● 3 | --- | --- | --- |



WEAR METALS

| | | | | | |
|------------|-----|------|-----|-----|-----|
| Iron | ppm | ● 62 | --- | --- | --- |
| Copper | ppm | <1 | --- | --- | --- |
| Lead | ppm | 1 | --- | --- | --- |
| Tin | ppm | 2 | --- | --- | --- |
| Aluminum | ppm | 2 | --- | --- | --- |
| Chromium | ppm | ● <1 | --- | --- | --- |
| Molybdenum | ppm | ● <1 | --- | --- | --- |
| Nickel | ppm | ● 1 | --- | --- | --- |
| Titanium | ppm | 4 | --- | --- | --- |
| Silver | ppm | <1 | --- | --- | --- |
| Manganese | ppm | ● 2 | --- | --- | --- |
| Vanadium | ppm | 0 | --- | --- | --- |



ADDITIVES

| | | | | | |
|------------|-----|--------|-----|-----|-----|
| Calcium | ppm | ● 56 | --- | --- | --- |
| Magnesium | ppm | ● 4 | --- | --- | --- |
| Zinc | ppm | 207 | --- | --- | --- |
| Phosphorus | ppm | ● 1117 | --- | --- | --- |
| Barium | ppm | ● 17 | --- | --- | --- |
| Boron | ppm | ● 170 | --- | --- | --- |

Diagnosis

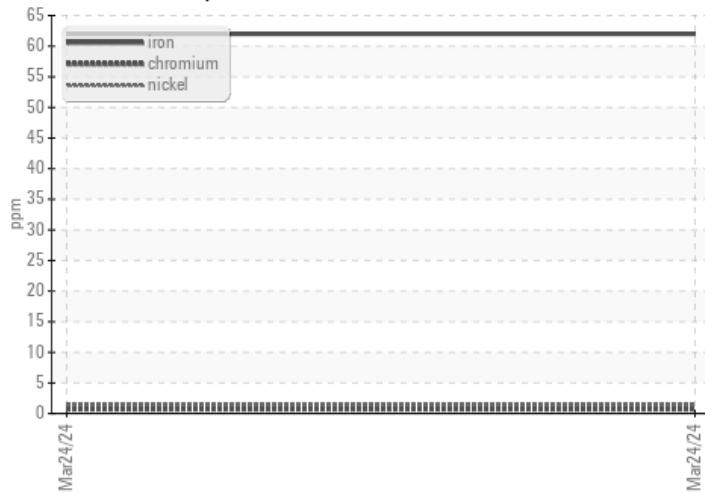
We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. There is a high concentration of water present in the oil. Excessive free water present. Elemental level of silicon (Si) above normal. The oil is no longer serviceable due to the presence of contaminants.

Depot: LIEBHERRNZ
Unique No: 10942308
Signed: Don Baldrige
Report Date: 27 Mar 2024

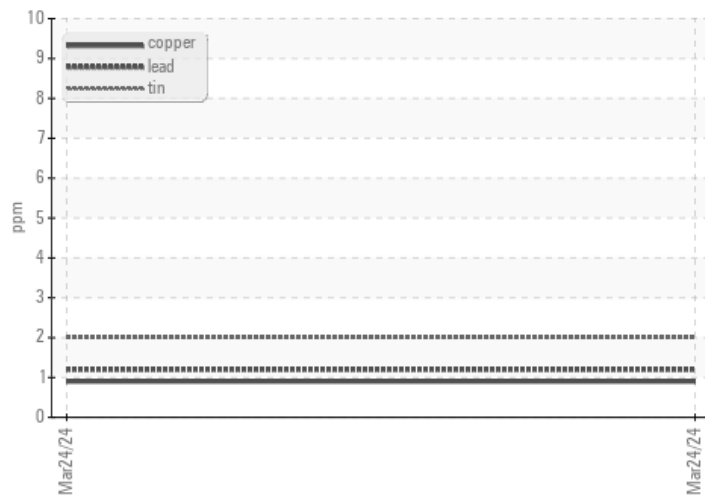


GRAPHS

Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C

