

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### [[S20230515022724]] LIEBHERR TA230 4162 - Hydraulic Sys

Sample No: LH06059245

Oil Type: AW HYDRAULIC OIL ISO 46



**HEAVY MACHINES INC.**  
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 MEMPHIS, TN  
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### SAMPLE INFORMATION

|               |             |     |     |     |
|---------------|-------------|-----|-----|-----|
| Sample Number | LH06059245  | --- | --- | --- |
| Sample Date   | 10 Nov 2023 | --- | --- | --- |
| Machine Hours | 3503        | --- | --- | --- |
| Oil Hours     | 0           | --- | --- | --- |
| Oil Changed   | Not Chngd   | --- | --- | --- |
| Sample Status | ATTENTION   | --- | --- | --- |



### OIL CONDITION

|                  |          |      |     |     |     |
|------------------|----------|------|-----|-----|-----|
| Visc @ 40°C      | cSt      | 46.7 | --- | --- | --- |
| Acid Number (AN) | mg KOH/g | 1.17 | --- | --- | --- |



### CONTAMINATION

|                   |     |          |     |     |     |
|-------------------|-----|----------|-----|-----|-----|
| Water             | %   | NEG      | --- | --- | --- |
| Particles >4µm    |     | 22107    | --- | --- | --- |
| Particles >6µm    |     | 3701     | --- | --- | --- |
| Particles >14µm   |     | 81       | --- | --- | --- |
| ISO 4406:1999 (c) |     | 22/19/14 | --- | --- | --- |
| Silicon           | ppm | 3        | --- | --- | --- |
| Sodium            | ppm | 3        | --- | --- | --- |
| Potassium         | ppm | 0        | --- | --- | --- |



### WEAR METALS

|            |     |    |     |     |     |
|------------|-----|----|-----|-----|-----|
| Iron       | ppm | 5  | --- | --- | --- |
| Copper     | ppm | 4  | --- | --- | --- |
| Lead       | ppm | 2  | --- | --- | --- |
| Tin        | ppm | 0  | --- | --- | --- |
| Aluminum   | ppm | 0  | --- | --- | --- |
| Chromium   | ppm | <1 | --- | --- | --- |
| Molybdenum | ppm | 0  | --- | --- | --- |
| Nickel     | ppm | 0  | --- | --- | --- |
| Titanium   | ppm | 0  | --- | --- | --- |
| Silver     | ppm | 0  | --- | --- | --- |
| Manganese  | ppm | 0  | --- | --- | --- |
| Vanadium   | ppm | 0  | --- | --- | --- |



### ADDITIVES

|            |     |      |     |     |     |
|------------|-----|------|-----|-----|-----|
| Calcium    | ppm | 1467 | --- | --- | --- |
| Magnesium  | ppm | 3    | --- | --- | --- |
| Zinc       | ppm | 724  | --- | --- | --- |
| Phosphorus | ppm | 650  | --- | --- | --- |
| Barium     | ppm | 0    | --- | --- | --- |
| Boron      | ppm | 1    | --- | --- | --- |

### Diagnosis

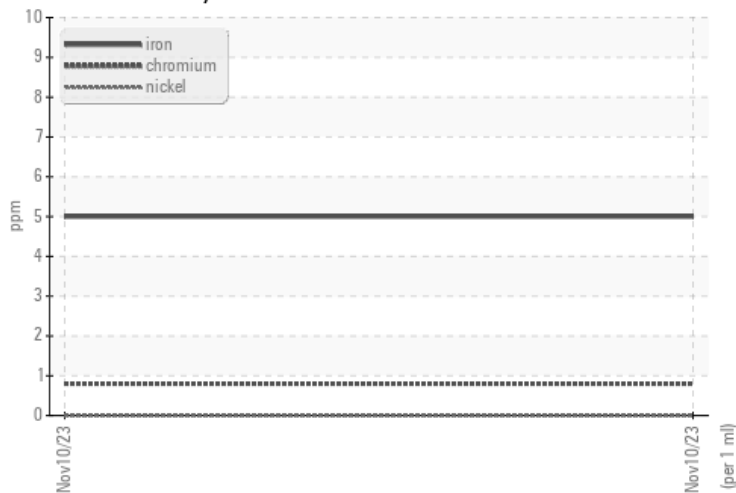
No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

**Depot:** LEC0051  
**Unique No:** 10830627  
**Signed:** Don Baldrige  
**Report Date:** 15 Jan 2024

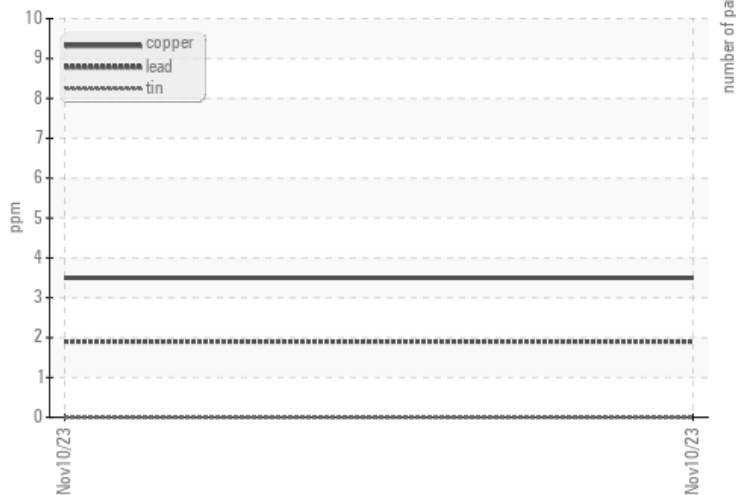


### GRAPHS

#### Ferrous Alloys



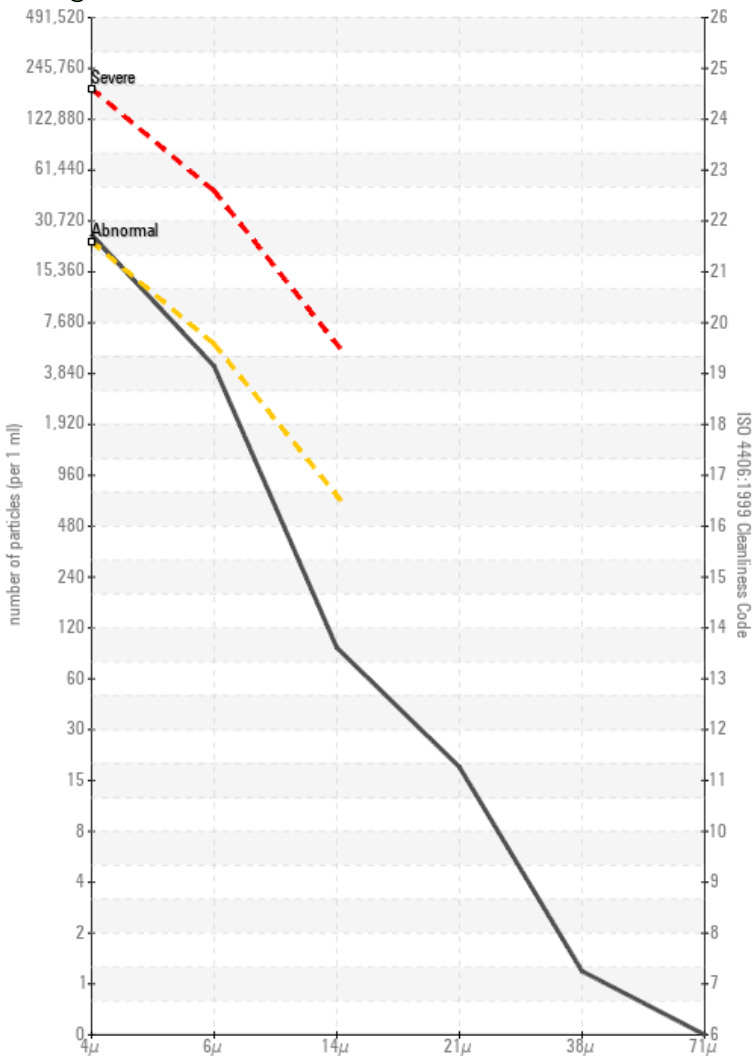
#### Non-ferrous Metals



#### Viscosity @ 40°C



#### Particle Count



#### Acid Number

