



# OIL ANALYSIS REPORT

|                 |               |
|-----------------|---------------|
| WEAR            | <b>NORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b> |



Area  
**RMR-Louisvile**  
Machine Id  
**114199-1217 LIEBHERR LH60M 114199-1217**  
Component  
**Front Differential**  
Fluid  
**GEAR OIL SAE 80W90 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>DJJ0017744</b>  | DJJ0017995  | DJJ0011425  |
| Sample Date    |     | Client Info |           | <b>15 Apr 2024</b> | 08 Mar 2023 | 03 Jan 2022 |
| Machine Age    | hrs | Client Info |           | <b>10230</b>       | 8152        | 5677        |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>Not Changd</b>  | Not Changd  | Not Changd  |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | Not Changd  | Not Changd  |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR

All component wear rates are normal.

|              |        |             |      |             |      |      |
|--------------|--------|-------------|------|-------------|------|------|
| Iron         | ppm    | ASTM D5185m | >150 | <b>2</b>    | 6    | 12   |
| Chromium     | ppm    | ASTM D5185m | >5   | <b>0</b>    | <1   | 0    |
| Nickel       | ppm    | ASTM D5185m | >10  | <b>0</b>    | 0    | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>    | <1   | 0    |
| Silver       | ppm    | ASTM D5185m |      | <b>0</b>    | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >5   | <b>1</b>    | 0    | 0    |
| Lead         | ppm    | ASTM D5185m | >5   | <b>0</b>    | 0    | 0    |
| Copper       | ppm    | ASTM D5185m | >125 | <b>0</b>    | 2    | 9    |
| Tin          | ppm    | ASTM D5185m | >5   | <b>0</b>    | 0    | 0    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>    | <1   | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b> | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b> | NONE | NONE |

## CONTAMINATION

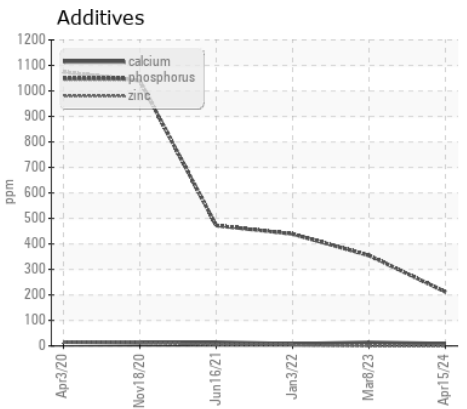
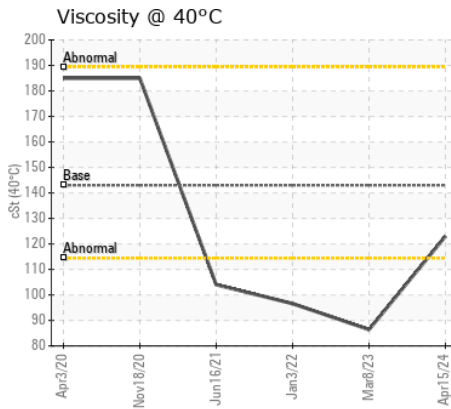
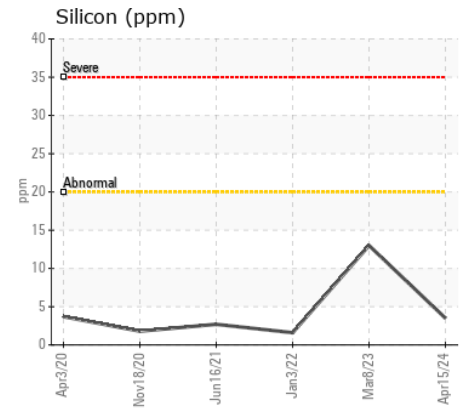
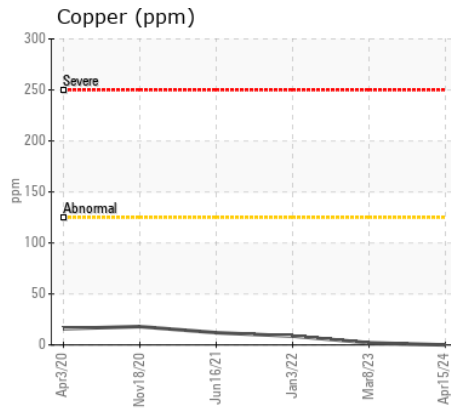
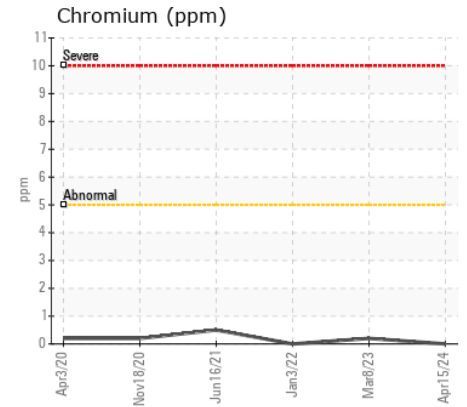
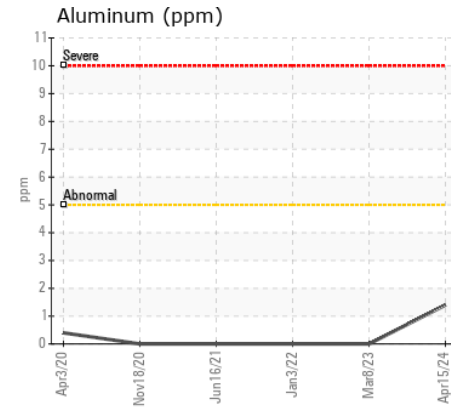
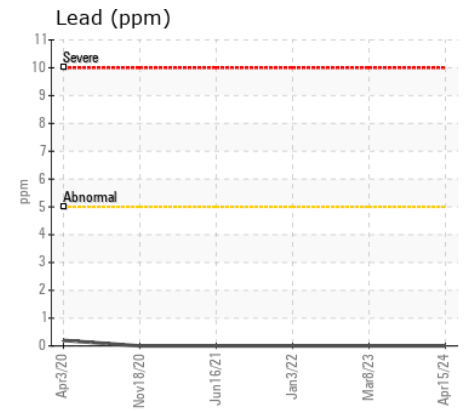
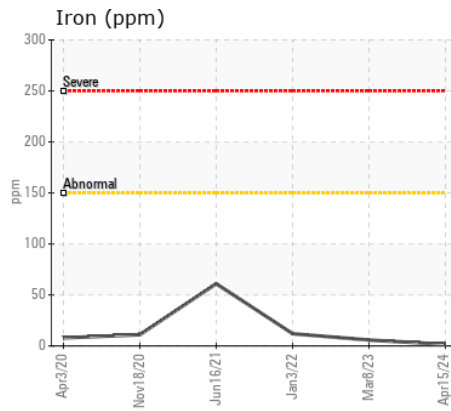
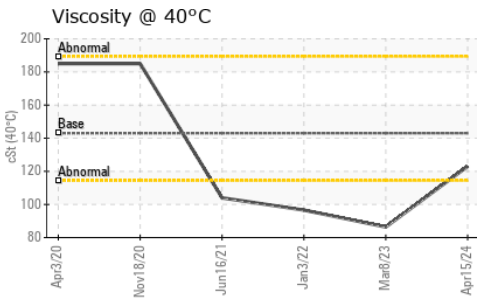
There is no indication of any contamination in the oil.

|                  |        |             |       |              |       |       |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm    | ASTM D5185m | >20   | <b>4</b>     | 13    | 2     |
| Potassium        | ppm    | ASTM D5185m | >20   | <b>1</b>     | 1     | 0     |
| Water            |        | WC Method   | >0.2  | <b>NEG</b>   | NEG   | NEG   |
| Silt             | scalar | *Visual     | NONE  | <b>MODER</b> | NONE  | NONE  |
| Debris           | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Sand/Dirt        | scalar | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Appearance       | scalar | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Odor             | scalar | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Emulsified Water | scalar | *Visual     | >0.2  | <b>NEG</b>   | NEG   | NEG   |

## FLUID CONDITION

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

|             |     |             |       |              |       |       |
|-------------|-----|-------------|-------|--------------|-------|-------|
| Sodium      | ppm | ASTM D5185m | >170  | <b>0</b>     | 2     | 0     |
| Boron       | ppm | ASTM D5185m | 400   | <b>0</b>     | <1    | 0     |
| Barium      | ppm | ASTM D5185m | 200   | <b>0</b>     | 0     | 21    |
| Molybdenum  | ppm | ASTM D5185m | 12    | <b>0</b>     | 1     | 1     |
| Manganese   | ppm | ASTM D5185m |       | <b>&lt;1</b> | 1     | <1    |
| Magnesium   | ppm | ASTM D5185m | 12    | <b>0</b>     | 7     | 3     |
| Calcium     | ppm | ASTM D5185m | 150   | <b>9</b>     | 14    | 8     |
| Phosphorus  | ppm | ASTM D5185m | 1650  | <b>212</b>   | 355   | 439   |
| Zinc        | ppm | ASTM D5185m | 125   | <b>0</b>     | 0     | 3     |
| Sulfur      | ppm | ASTM D5185m | 22500 | <b>16626</b> | 18560 | 12431 |
| Visc @ 40°C | cSt | ASTM D445   | 143   | <b>123</b>   | 86.4  | 96.6  |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0017744  
**Lab Number** : 06154948  
**Unique Number** : 10990371  
**Test Package** : MOBCE

**RIVER METALS RECYCLING - LOUISVILLE**  
 PO BOX 6521  
 LOUISVILLE, KY  
 US 40206  
 Contact: RYAN BOWDEN

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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