



# OIL ANALYSIS REPORT

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



Area  
**RMR-Somerset**  
Machine Id  
**18892 LIEBHERR A934B 028807-935**  
Component  
**Front Right Wheel Hub**  
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>DJJ0021705</b>  | DJJ0018083  | DJJ0011944  |
| Sample Date    |     | Client Info |           | <b>16 Apr 2024</b> | 18 Jan 2023 | 02 Nov 2021 |
| Machine Age    | hrs | Client Info |           | <b>19831</b>       | 18580       | 16982       |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 500         | 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>         | N/A         | Not Changd  |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR

All component wear rates are normal.

|              |        |             |      |             |       |       |
|--------------|--------|-------------|------|-------------|-------|-------|
| Iron         | ppm    | ASTM D5185m | >450 | <b>62</b>   | 69    | 45    |
| Chromium     | ppm    | ASTM D5185m | >4   | <b>0</b>    | <1    | <1    |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>0</b>    | 1     | 0     |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>    | 0     | 0     |
| Silver       | ppm    | ASTM D5185m |      | <b>0</b>    | <1    | 0     |
| Aluminum     | ppm    | ASTM D5185m | >15  | <b>1</b>    | <1    | 2     |
| Lead         | ppm    | ASTM D5185m | >4   | <b>0</b>    | <1    | <1    |
| Copper       | ppm    | ASTM D5185m | >75  | <b>0</b>    | 2     | 3     |
| Tin          | ppm    | ASTM D5185m |      | <b>0</b>    | <1    | 0     |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>    | <1    | 0     |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b> | LIGHT | LIGHT |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b> | NONE  | NONE  |

## CONTAMINATION

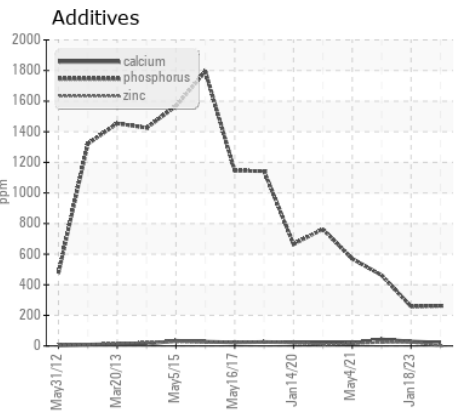
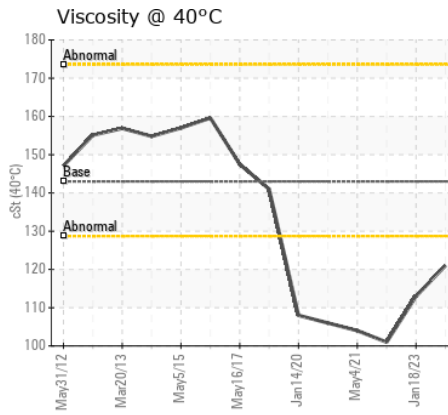
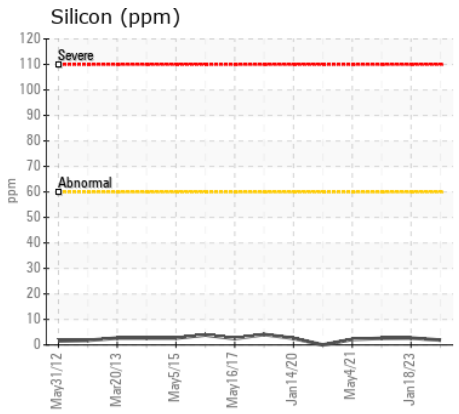
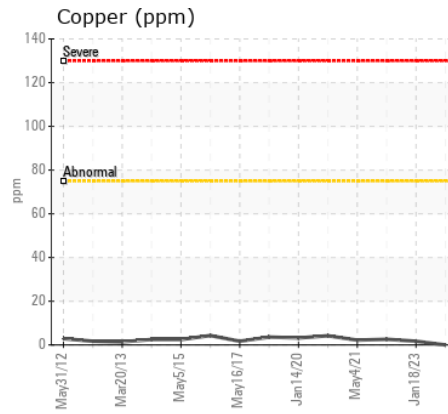
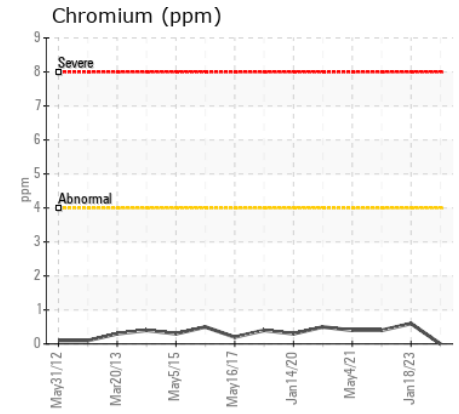
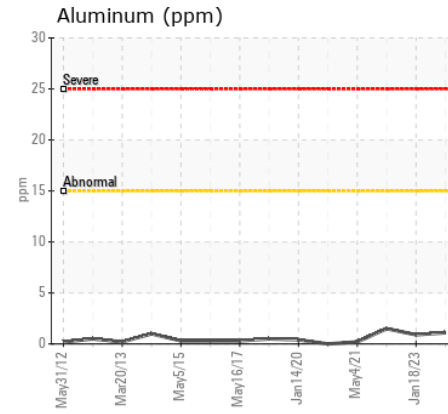
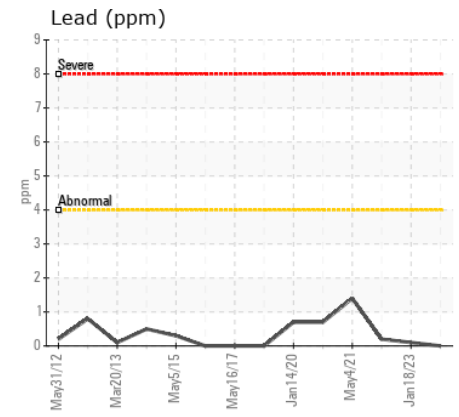
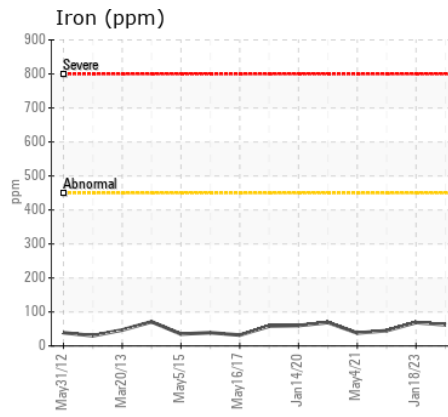
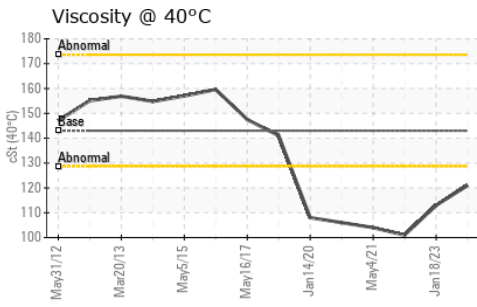
There is no indication of any contamination in the oil.

|                  |        |             |       |              |       |       |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm    | ASTM D5185m | >60   | <b>2</b>     | 3     | 3     |
| Potassium        | ppm    | ASTM D5185m | >20   | <b>1</b>     | <1    | 2     |
| Water            |        | WC Method   | >0.2  | <b>NEG</b>   | NEG   | NEG   |
| Silt             | scalar | *Visual     | NONE  | <b>NONE</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>     | <1    | 2     |
| Boron       | ppm | ASTM D5185m | 400   | <b>0</b>     | 1     | 29    |
| Barium      | ppm | ASTM D5185m | 200   | <b>0</b>     | 2     | <1    |
| Molybdenum  | ppm | ASTM D5185m | 12    | <b>&lt;1</b> | 1     | 2     |
| Manganese   | ppm | ASTM D5185m |       | <b>1</b>     | 1     | <1    |
| Magnesium   | ppm | ASTM D5185m | 12    | <b>0</b>     | 4     | 11    |
| Calcium     | ppm | ASTM D5185m | 150   | <b>22</b>    | 29    | 43    |
| Phosphorus  | ppm | ASTM D5185m | 1650  | <b>262</b>   | 258   | 462   |
| Zinc        | ppm | ASTM D5185m | 125   | <b>&lt;1</b> | 23    | 23    |
| Sulfur      | ppm | ASTM D5185m | 22500 | <b>16817</b> | 13297 | 15205 |
| Visc @ 40°C | cSt | ASTM D445   | 143   | <b>121</b>   | 113   | 101   |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DJJ0021705  
**Lab Number** : 06154956  
**Unique Number** : 10990379  
**Test Package** : MOBCE

**Received** : 19 Apr 2024  
**Tested** : 22 Apr 2024  
**Diagnosed** : 24 Apr 2024 - Jonathan Hester

**RIVER METALS RECYCLING - SOMERSET**  
 905 CRANE ROAD  
 SOMERSET, KY  
 US 42501  
 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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