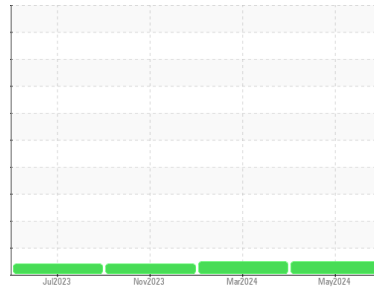




# OIL ANALYSIS REPORT

## Sample Rating Trend



Machine Id  
**HEB\_MLU1**  
 Component  
**Inboard Pump**  
 Fluid  
**{not provided} (--- GAL)**

### DIAGNOSIS

- Recommendation**  
Resample at the next service interval to monitor.
- Wear**  
All component wear rates are normal.
- Contamination**  
The water content is negligible. There is no indication of any contamination in the oil.
- Fluid Condition**  
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1    | history2    |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number      | Client Info |             |            | <b>RP0036060</b>   | RP0039981   | RP0033139   |
| Sample Date        | Client Info |             |            | <b>30 May 2024</b> | 06 Mar 2024 | 16 Nov 2023 |
| Machine Age        | hrs         | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Age            | hrs         | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Changed        | Client Info |             |            | <b>N/A</b>         | N/A         | N/A         |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | ABNORMAL    |

| WEAR METALS |     | method      | limit/base | current      | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185m | >90        | <b>&lt;1</b> | 0        | 1        |
| Chromium    | ppm | ASTM D5185m | >5         | <b>0</b>     | 0        | 0        |
| Nickel      | ppm | ASTM D5185m | >5         | <b>0</b>     | 0        | 0        |
| Titanium    | ppm | ASTM D5185m | >3         | <b>0</b>     | 0        | <1       |
| Silver      | ppm | ASTM D5185m | >3         | <b>0</b>     | 0        | 0        |
| Aluminum    | ppm | ASTM D5185m | >7         | <b>0</b>     | 0        | 0        |
| Lead        | ppm | ASTM D5185m | >12        | <b>4</b>     | 4        | 6        |
| Copper      | ppm | ASTM D5185m | >30        | <b>29</b>    | 29       | 31       |
| Tin         | ppm | ASTM D5185m | >9         | <b>5</b>     | 9        | 9        |
| Vanadium    | ppm | ASTM D5185m |            | <b>&lt;1</b> | 0        | <1       |
| Cadmium     | ppm | ASTM D5185m |            | <b>0</b>     | <1       | <1       |

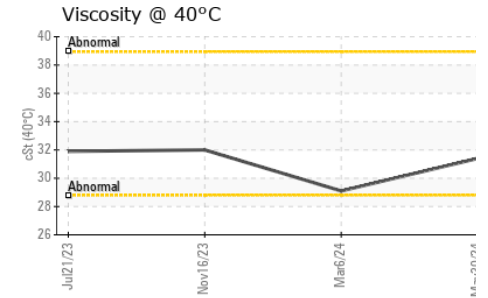
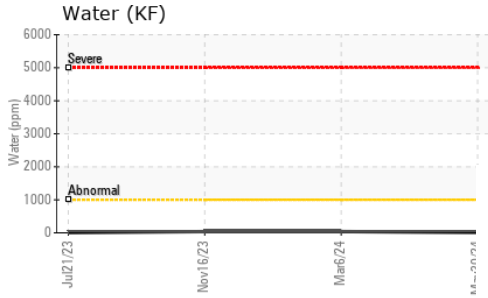
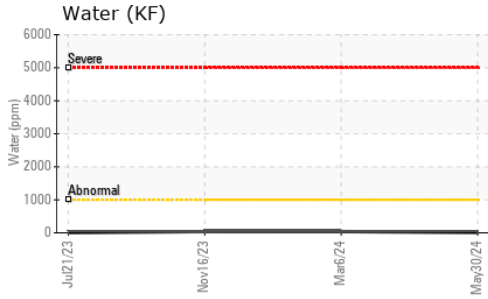
| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Barium     | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Manganese  | ppm | ASTM D5185m |            | <b>&lt;1</b> | <1       | 0        |
| Magnesium  | ppm | ASTM D5185m |            | <b>17</b>    | 23       | 0        |
| Calcium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Phosphorus | ppm | ASTM D5185m |            | <b>70</b>    | 67       | 58       |
| Zinc       | ppm | ASTM D5185m |            | <b>64</b>    | 54       | 50       |

| CONTAMINANTS |     | method      | limit/base | current      | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >60        | <b>3</b>     | 3        | 5        |
| Sodium       | ppm | ASTM D5185m |            | <b>4</b>     | <1       | 4        |
| Potassium    | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | 0        |
| Water        | %   | ASTM D6304  | >.1        | <b>0.001</b> | 0.003    | 0.003    |
| ppm Water    | ppm | ASTM D6304  | >1000      | <b>1</b>     | 39       | 37       |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 |            | <b>0.10</b> | 0.11     | 0.07     |

| VISUAL           |        | method  | limit/base | current      | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal      | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | LIGHT    |
| Yellow Metal     | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Precipitate      | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Silt             | scalar | *Visual | NONE       | <b>NONE</b>  | NONE     | NONE     |
| Debris           | scalar | *Visual | NONE       | <b>LIGHT</b> | LIGHT    | ▲ MODER  |
| 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 | >.1        | <b>NEG</b>   | NEG      | NEG      |
| Free Water       | scalar | *Visual |            | <b>NEG</b>   | NEG      | NEG      |

# OIL ANALYSIS REPORT



| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445  | 31.4    | 29.1     | 32.0     |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|

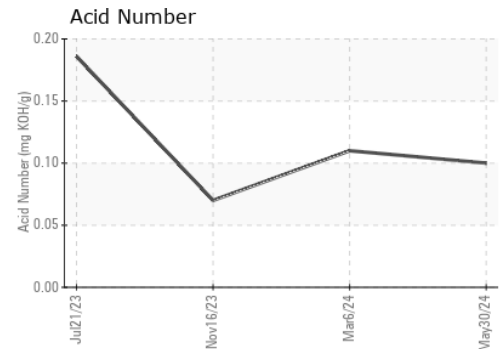
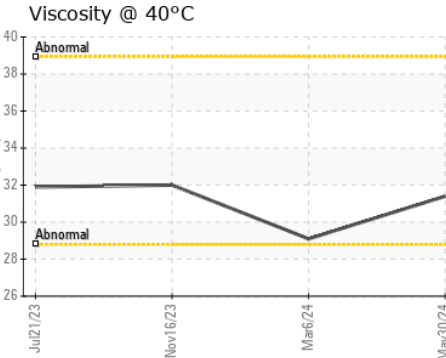
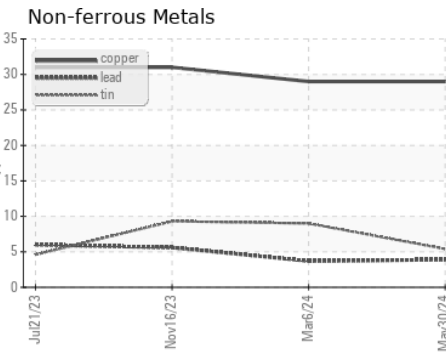
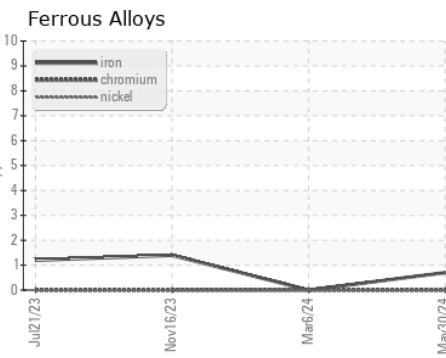
Color



Bottom



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0036060      **Received** : 07 Jun 2024  
**Lab Number** : 06202838      **Tested** : 10 Jun 2024  
**Unique Number** : 11070299      **Diagnosed** : 10 Jun 2024 - Don Baldrige  
**Test Package** : IND 2

**ENERGY TRANSFER - HEBRON**  
  
 HEBRON, KY  
 US 41048  
 Contact: Service Manager

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)

T:  
F: