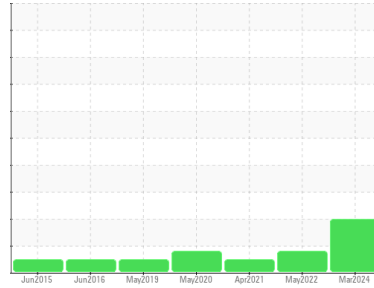


# OIL ANALYSIS REPORT

Sample Rating Trend



**DEGRADATION**



Area  
**[GTT224-339]**  
 Machine Id  
**CARRIER Q64360**  
 Component  
**Chiller**  
 Fluid  
**ICI EMKARATE RL 68H (--- GAL)**

**DIAGNOSIS**

**▲ Recommendation**

The acid number (AN) indicates that your fluid has reached the end of its useful life, please proceed with a complete oil change. We recommend an early resample to monitor this condition.

**▲ Wear**

Tin ppm levels are abnormal. The tin reading shows moderate wear occurring on the compressor bearings or motor bearings.

**Contamination**

The water content is negligible. There is no indication of any contamination in the oil.

**▲ Fluid Condition**

The AN level is above the recommended limit. The oil is no longer serviceable.

**SAMPLE INFORMATION**

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>GTT0001056</b>  | GTT58893    | GTT58894    |
| Sample Date   | Client Info |             | <b>15 Mar 2024</b> | 13 May 2022 | 09 Apr 2021 |
| Machine Age   | hrs         | Client Info | <b>0</b>           | ---         | ---         |
| Oil Age       | hrs         | Client Info | <b>0</b>           | ---         | ---         |
| Oil Changed   | Client Info |             | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>ABNORMAL</b>    | ABNORMAL    | NORMAL      |

**WEAR METALS**

|           | method | limit/base       | current      | history1   | history2 |
|-----------|--------|------------------|--------------|------------|----------|
| Iron      | ppm    | ASTM D5185(m) >8 | <b>4</b>     | 1          | <1       |
| Chromium  | ppm    | ASTM D5185(m) >2 | <b>0</b>     | <1         | <1       |
| Nickel    | ppm    | ASTM D5185(m)    | <b>0</b>     | ---        | ---      |
| Titanium  | ppm    | ASTM D5185(m)    | <b>0</b>     | ---        | ---      |
| Silver    | ppm    | ASTM D5185(m) >2 | <b>0</b>     | ---        | ---      |
| Aluminum  | ppm    | ASTM D5185(m) >3 | <b>&lt;1</b> | <1         | <1       |
| Lead      | ppm    | ASTM D5185(m) >2 | <b>0</b>     | <1         | <1       |
| Copper    | ppm    | ASTM D5185(m) >8 | <b>&lt;1</b> | 3          | 1        |
| Tin       | ppm    | ASTM D5185(m) >4 | <b>▲ 13</b>  | <b>▲ 3</b> | <1       |
| Antimony  | ppm    | ASTM D5185(m)    | <b>0</b>     | ---        | ---      |
| Vanadium  | ppm    | ASTM D5185(m)    | <b>0</b>     | ---        | ---      |
| Beryllium | ppm    | ASTM D5185(m)    | <b>0</b>     | ---        | ---      |
| Cadmium   | ppm    | ASTM D5185(m)    | <b>0</b>     | ---        | ---      |

**ADDITIVES**

|            | method | limit/base         | current      | history1 | history2 |
|------------|--------|--------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185(m) 0    | <b>0</b>     | ---      | ---      |
| Barium     | ppm    | ASTM D5185(m) 0    | <b>0</b>     | ---      | ---      |
| Molybdenum | ppm    | ASTM D5185(m) 0    | <b>0</b>     | ---      | ---      |
| Manganese  | ppm    | ASTM D5185(m)      | <b>0</b>     | ---      | ---      |
| Magnesium  | ppm    | ASTM D5185(m) 0    | <b>&lt;1</b> | ---      | ---      |
| Calcium    | ppm    | ASTM D5185(m) 0    | <b>0</b>     | ---      | ---      |
| Phosphorus | ppm    | ASTM D5185(m) 1900 | <b>1824</b>  | ---      | ---      |
| Zinc       | ppm    | ASTM D5185(m) 0    | <b>2</b>     | 1        | <1       |
| Sulfur     | ppm    | ASTM D5185(m) 25   | <b>1</b>     | ---      | ---      |
| Lithium    | ppm    | ASTM D5185(m)      | <b>&lt;1</b> | ---      | ---      |

**CONTAMINANTS**

|           | method | limit/base        | current      | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185(m) >15 | <b>3</b>     | ---      | ---      |
| Sodium    | ppm    | ASTM D5185(m)     | <b>&lt;1</b> | ---      | ---      |
| Potassium | ppm    | ASTM D5185(m) >20 | <b>&lt;1</b> | ---      | ---      |
| ppm Water | ppm    | ASTM D6304* >200  | <b>103</b>   | 71       | 80       |

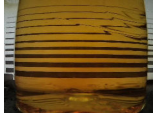

**FLUID DEGRADATION**

|                  | method   | limit/base      | current       | history1 | history2 |
|------------------|----------|-----------------|---------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* 0.02 | <b>▲ 0.16</b> | 0.039    | 0.013    |

# OIL ANALYSIS REPORT

| VISUAL       | method | limit/base | current | history1     | history2 |     |
|--------------|--------|------------|---------|--------------|----------|-----|
| White Metal  | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | --- |
| Yellow Metal | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | --- |
| Precipitate  | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | --- |
| Silt         | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | --- |
| Debris       | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | --- |
| Sand/Dirt    | scalar | Visual*    | NONE    | <b>NONE</b>  | ---      | --- |
| Appearance   | scalar | Visual*    | NORML   | <b>NORML</b> | ---      | --- |
| Odor         | scalar | Visual*    | NORML   | <b>NORML</b> | ---      | --- |

| FLUID PROPERTIES | method | limit/base    | current | history1    | history2 |     |
|------------------|--------|---------------|---------|-------------|----------|-----|
| Visc @ 40°C      | cSt    | ASTM D7279(m) | 72.3    | <b>52.0</b> | ---      | --- |

| SAMPLE IMAGES | method | limit/base | current   | history1 | history2 |
|---------------|--------|------------|---|----------|----------|
| Color         |        |            |  | no image | no image |
| Bottom        |        |            |  | no image | no image |

## GRAPHS



**Sample No.** : GTT0001056  
**Lab Number** : 02624059  
**Unique Number** : 5749178  
**Test Package** : IND 2 ( Additional Tests: KV40 )

**Received** : 22 Mar 2024  
**Tested** : 26 Mar 2024  
**Diagnosed** : 26 Mar 2024 - Bill Quesnel

*To discuss this sample report, contact Customer Service at 1-905-847-9300 Ext 26.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
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