

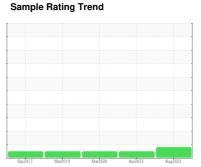
## **OIL ANALYSIS REPORT**



# 191 Laurier Ch#1 [4500054809] **CARRIER 0305Q70517**

Chiller

ICI EMKARATE RL 68H (--- GAL)





### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

Copper ppm levels are noted. All other component wear rates are normal. The elevated copper reading suggests the effects of oil migration through the evaporator (oil loss from the compressor) possibly occurring during intervals of operation at low cooling load conditions.

#### 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.

|                  |          | Sep.2017      | Mar2019    | Mar2020 Apr2023 | Aug2023     |             |
|------------------|----------|---------------|------------|-----------------|-------------|-------------|
| SAMPLE INFORM    | MATION   | method        | limit/base | current         | history1    | history2    |
| Sample Number    |          | Client Info   |            | GTT0001338      | GTT917      | GTT919      |
| Sample Date      |          | Client Info   |            | 01 Aug 2023     | 05 Apr 2023 | 09 Mar 2020 |
| Machine Age      | hrs      | Client Info   |            | 0               |             |             |
| Oil Age          | hrs      | Client Info   |            | 0               |             |             |
| Oil Changed      |          | Client Info   |            | N/A             | N/A         | N/A         |
| Sample Status    |          |               |            | ATTENTION       | NORMAL      | NORMAL      |
| WEAR METALS      |          | method        | limit/base | current         | history1    | history2    |
| Iron             | ppm      | ASTM D5185(m) | >8         | 0               | <1          | <1          |
| Chromium         | ppm      | ASTM D5185(m) | >2         | 0               | <1          | <1          |
| Nickel           | ppm      | ASTM D5185(m) |            | <1              |             |             |
| Titanium         | ppm      | ASTM D5185(m) |            | 0               |             |             |
| Silver           | ppm      | ASTM D5185(m) | >2         | 0               |             |             |
| Aluminum         | ppm      | ASTM D5185(m) | >3         | <1              | <1          | <1          |
| Lead             | ppm      | ASTM D5185(m) | >2         | <1              | <1          | <1          |
| Copper           | ppm      | ASTM D5185(m) | >8         | <b>1</b> 0      | 1           | <1          |
| Tin              | ppm      | ASTM D5185(m) | >4         | 0               | <1          | <1          |
| Antimony         | ppm      | ASTM D5185(m) |            | 0               |             |             |
| Vanadium         | ppm      | ASTM D5185(m) |            | 0               |             |             |
| Beryllium        | ppm      | ASTM D5185(m) |            | 0               |             |             |
| Cadmium          | ppm      | ASTM D5185(m) |            | 0               |             |             |
| ADDITIVES        |          | method        | limit/base | current         | history1    | history2    |
| Boron            | ppm      | ASTM D5185(m) | 0          | <1              |             |             |
| Barium           | ppm      | ASTM D5185(m) | 0          | 0               |             |             |
| Molybdenum       | ppm      | ASTM D5185(m) | 0          | 0               |             |             |
| Manganese        | ppm      | ASTM D5185(m) |            | 0               |             |             |
| Magnesium        | ppm      | ASTM D5185(m) | 0          | 0               |             |             |
| Calcium          | ppm      | ASTM D5185(m) | 0          | 0               |             |             |
| Phosphorus       | ppm      | ASTM D5185(m) | 1900       | 1866            |             |             |
| Zinc             | ppm      | ASTM D5185(m) | 0          | 3               | <1          | <1          |
| Sulfur           | ppm      | ASTM D5185(m) | 25         | 11              |             |             |
| Lithium          | ppm      | ASTM D5185(m) |            | <1              |             |             |
| CONTAMINANTS     | ;        | method        | limit/base | current         | history1    | history2    |
| Silicon          | ppm      | ASTM D5185(m) | >15        | 14              |             |             |
| Sodium           | ppm      | ASTM D5185(m) |            | <1              |             |             |
| Potassium        | ppm      | ASTM D5185(m) | >20        | 0               |             |             |
| ppm Water        | ppm      | ASTM D6304*   | >100       | 99              | 75          | 303         |
| FLUID DEGRADA    | ATION    | method        | limit/base | current         | history1    | history2    |
| Acid Number (AN) | mg KOH/g | ASTM D974*    | 0.02       | 0.08            | 0.021       | 0.035       |



# **OIL ANALYSIS REPORT**

| VISUAL        |        | method        | limit/base | current | history1 | history2 |
|---------------|--------|---------------|------------|---------|----------|----------|
| White Metal   | scalar | Visual*       | NONE       | NONE    |          |          |
| Yellow Metal  | scalar | Visual*       | NONE       | NONE    |          |          |
| Precipitate   | scalar | Visual*       | NONE       | NONE    |          |          |
| Silt          | scalar | Visual*       | NONE       | NONE    |          |          |
| Debris        | scalar | Visual*       | NONE       | NONE    |          |          |
| Sand/Dirt     | scalar | Visual*       | NONE       | NONE    |          |          |
| Appearance    | scalar | Visual*       | NORML      | NORML   |          |          |
| Odor          | scalar | Visual*       | NORML      | NORML   |          |          |
| FLUID PROPERT | IES    | method        | limit/base | current | history1 | history2 |
| Visc @ 40°C   | cSt    | ASTM D7279(m) | 72.3       | 35.1    |          |          |
| SAMPLE IMAGES |        | method        | limit/base | current | history1 | history2 |
| Color         |        |               |            |         | no image | no image |
| Bottom        |        |               |            |         | no image | no image |
|               |        |               |            |         |          |          |



 Sample No.
 : GTT0001338
 Recieved
 : 28 Dec 2023

 Lab Number
 : 02605622
 Diagnosed
 : 05 Jan 2024

 Unique Number
 : 5698707
 Diagnostician
 : Bill Quesnel

 Test Package
 : IND 2 ( Additional Tests: KV40 )

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.

Damages: Seller shall in no event be liable for special, incidental, or consequential damages, of a commercial nature, resulting from any cause.

**Carrier Commerical Service** 

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nature, resulting from any cause.