

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id **C-9 (S/N SGC28130030)** 

**Refrigeration Compressor** 

FRICK COMPRESSOR OIL #3 (--- GAL)

## **DIAGNOSIS**

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

### **Fluid Condition**

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| v2013 Ap;2016 Ap;2017 Ap;2018 Ap;2019 Feb;2021 May;2022 Mia;2023 |          |              |            |                   |                                 |                   |
|--|----------|--------------|------------|-------------------|---------------------------------|-------------------|
| SAMPLE INFORM  | MATION   | method       | limit/base | current           | history1                        | history2          |
| Sample Number  |          | Client Info  |            | USP0005013        | USP0001643                      | USP255241         |
| Sample Date  |          | Client Info  |            | 02 Jan 2024       | 26 Sep 2023                     | 28 Jun 2023       |
| Machine Age  | hrs      | Client Info  |            | 6119              | 6064                            | 6047              |
| Oil Age  | hrs      | Client Info  |            | 0                 | 0                               | 0                 |
| Oil Changed  |          | Client Info  |            | N/A               | N/A                             | N/A               |
| Sample Status  |          |              |            | ABNORMAL          | ABNORMAL                        | ABNORMAL          |
| WEAR METALS  |          | method       | limit/base | current           | history1                        | history2          |
| Iron   | ppm      | ASTM D5185m  | >8         | 7                 | 5                               | 4                 |
| Chromium   | ppm      | ASTM D5185m  | >2         | <1                | 0                               | 0                 |
| Nickel   | ppm      | ASTM D5185m  |            | 0                 | 0                               | <1                |
| Titanium   | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| Silver   | ppm      | ASTM D5185m  | >2         | 0                 | 0                               | 0                 |
| Aluminum   | ppm      | ASTM D5185m  | >3         | 0                 | 0                               | 0                 |
| Lead   | ppm      | ASTM D5185m  | >2         | 0                 | 0                               | 0                 |
| Copper   | ppm      | ASTM D5185m  | >8         | <1                | <1                              | <1                |
| Tin  | ppm      | ASTM D5185m  | >4         | 0                 | 0                               | 0                 |
| Vanadium   | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| Cadmium  | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| ADDITIVES  |          | method       | limit/base | current           | history1                        | history2          |
| Boron  | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| Barium   | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| Molybdenum   | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| Manganese  | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| Magnesium  | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| Calcium  | ppm      | ASTM D5185m  |            | 4                 | 0                               | <1                |
| Phosphorus   | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| Zinc   | ppm      | ASTM D5185m  |            | 0                 | 2                               | 2                 |
| Sulfur   | ppm      | ASTM D5185m  |            | 70                | 117                             | 105               |
| CONTAMINANTS   |          | method       | limit/base | current           | history1                        | history2          |
| Silicon  | ppm      | ASTM D5185m  | >15        | <1                | <1                              | <1                |
| Sodium   | ppm      | ASTM D5185m  |            | 0                 | 0                               | 0                 |
| Potassium  | ppm      | ASTM D5185m  |            | <1                | <1                              | <1                |
| Water  | %        | ASTM D6304   |            | 0.004             | 0.002                           | 0.00              |
| ppm Water  | ppm      | ASTM D6304   | >100       | 41                | 20.1                            | 0.00              |
| FLUID CLEANLIN   | ESS      | method       | limit/base | current           | history1                        | history2          |
| Particles >4µm   |          | ASTM D7647   | >10000     | <u> </u>          | ▲ 46782                         | <b>▲</b> 48588    |
| Particles >6µm   |          | ASTM D7647   | >2500      | <u>^</u> 25322    | <u>∧</u> 7427                   | <u>▲</u> 13306    |
| Particles >14μm  |          | ASTM D7647   | >320       | 58                | 100                             | <b>▲</b> 482      |
| Particles >21µm  |          | ASTM D7647   | >80        | 4                 | 17                              | <b>△</b> 93       |
| Particles >38µm  |          | ASTM D7647   | >20        | 0                 | 1                               | 1                 |
| Particles >71μm  |          | ASTM D7647   | >4         | 0                 | 0                               | 0                 |
| Oil Cleanliness  |          | ISO 4406 (c) | >20/18/15  | <u>4</u> 24/22/13 | <u>\$\text{23}\) 23\/20\/14</u> | <u>△</u> 23/21/16 |
| FLUID DEGRADA  | TION     | method       | limit/base | current           | history1                        | history2          |
| Acid Number (AN)   | mg KOH/g | ASTM D974    |            | 0.014             | 0.024                           | 0.012             |



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