

### **OIL ANALYSIS REPORT**

#### Sample Rating Trend

#### NORMAL

# CO 105A (S/N 10241E19655408)

**Refrigeration Compressor** 

FRICK COMPRESSOR OIL #3 (--- GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

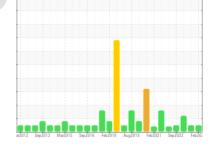
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

#### Fluid Condition

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





| w2012 Smp2013 Mw2015 Smp2018 Fmb2018 Awg2019 Fmb2021 Smp2022 Fmb201 |       |              |            |             |             |                      |  |  |  |
|---|-------|--------------|------------|-------------|-------------|----------------------|--|--|--|
| SAMPLE INFORM   | ATION | method       | limit/base | current     | history1    | history2             |  |  |  |
| Sample Number   |       | Client Info  |            | WC0903053   | WC0847576   | WC0789724            |  |  |  |
| Sample Date   |       | Client Info  |            | 01 Feb 2024 | 19 Aug 2023 | 25 Feb 2023          |  |  |  |
| Machine Age   | hrs   | Client Info  |            | 0           | 0           | 0                    |  |  |  |
| Oil Age   | hrs   | Client Info  |            | 0           | 0           | 0                    |  |  |  |
| Oil Changed   |       | Client Info  |            | N/A         | N/A         | N/A                  |  |  |  |
| Sample Status   |       |              |            | NORMAL      | NORMAL      | ABNORMAL             |  |  |  |
| WEAR METALS   |       | method       | limit/base | current     | history1    | history2             |  |  |  |
| Iron  | ppm   | ASTM D5185m  | >8         | 0           | 0           | 2                    |  |  |  |
| Chromium  | ppm   | ASTM D5185m  | >2         | 0           | 0           | 0                    |  |  |  |
| Nickel  | ppm   | ASTM D5185m  |            | <1          | 0           | 0                    |  |  |  |
| Titanium  | ppm   | ASTM D5185m  |            | 0           | 0           | 0                    |  |  |  |
| Silver  | ppm   | ASTM D5185m  | >2         | 0           | 0           | 0                    |  |  |  |
| Aluminum  | ppm   | ASTM D5185m  | >3         | <1          | 0           | 0                    |  |  |  |
| Lead  | ppm   | ASTM D5185m  | >2         | 0           | 0           | 0                    |  |  |  |
| Copper  | ppm   | ASTM D5185m  | >8         | 0           | 0           | 0                    |  |  |  |
| Tin   | ppm   | ASTM D5185m  | >4         | <1          | 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           | 2           | <1                   |  |  |  |
| Molybdenum  | ppm   | ASTM D5185m  |            | 0           | 0           | 0                    |  |  |  |
| Manganese   | ppm   | ASTM D5185m  |            | <1          | 0           | 0                    |  |  |  |
| Magnesium   | ppm   | ASTM D5185m  |            | <1          | 0           | 0                    |  |  |  |
| Calcium   | ppm   | ASTM D5185m  |            | <1          | 0           | 0                    |  |  |  |
| Phosphorus  | ppm   | ASTM D5185m  |            | 0           | <1          | 0                    |  |  |  |
| Zinc  | ppm   | ASTM D5185m  |            | 0           | 0           | 0                    |  |  |  |
| Sulfur  | ppm   | ASTM D5185m  |            | 135         | 70          | 51                   |  |  |  |
| CONTAMINANTS  |       | method       | limit/base | current     | history1    | history2             |  |  |  |
| Silicon   | ppm   | ASTM D5185m  | >15        | <1          | <1          | <1                   |  |  |  |
| Sodium  | ppm   | ASTM D5185m  |            | <1          | 0           | <1                   |  |  |  |
| Potassium   | ppm   | ASTM D5185m  | >20        | <1          | <1          | 0                    |  |  |  |
| Water   | %     | ASTM D6304   | >0.01      | 0.004       | 0.002       | 0.006                |  |  |  |
| ppm Water   | ppm   | ASTM D6304   | >100       | 50          | 16.9        | 69.8                 |  |  |  |
| FLUID CLEANLIN  | IESS  | method       | limit/base | current     | history1    | history2             |  |  |  |
| Particles >4µm  |       | ASTM D7647   | >10000     | 4141        | 3979        | <mark>▲</mark> 32266 |  |  |  |
| Particles >6µm  |       | ASTM D7647   | >2500      | 897         | 794         | <b>4</b> 737         |  |  |  |
| Particles >14µm   |       | ASTM D7647   | >320       | 8           | 23          | 8                    |  |  |  |
| Particles >21µm   |       | ASTM D7647   | >80        | 1           | 5           | 0                    |  |  |  |
| Particles >38µm   |       | ASTM D7647   | >20        | 0           | 0           | 0                    |  |  |  |
| Particles >71µm   |       | ASTM D7647   | >4         | 0           | 0           | 0                    |  |  |  |
| Oil Cleanliness   |       | ISO 4406 (c) | >20/18/15  | 19/17/10    | 19/17/12    | 🔺 22/19/10           |  |  |  |

Acid Number (AN) mg KC

FLUID DEGRADATION

mg KOH/g ASTM D974

Contact/Location: SCOTTY SCOTT - BRATUTOK

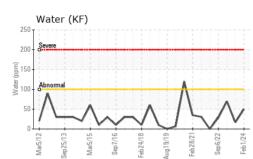
0.013

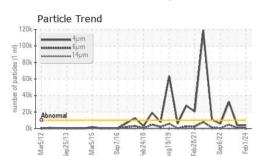
0.014

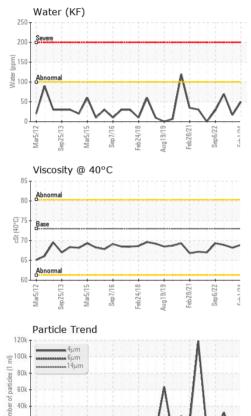
0.015



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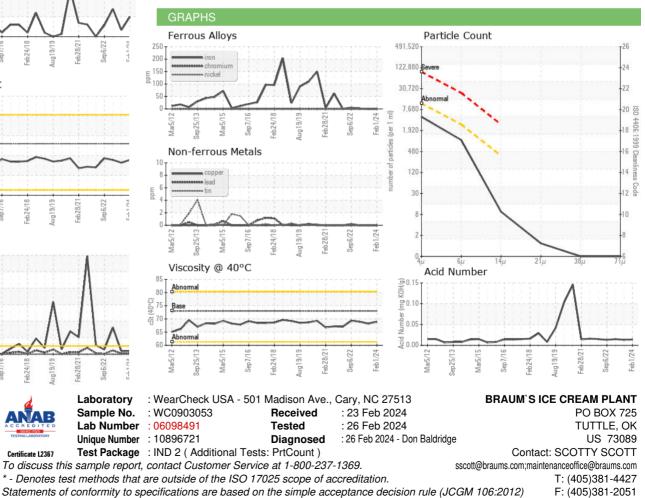




20

Abnorma

| VISUAL           |        | method    |            |         |          | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual   | >0.01      | NEG     | NEG      | NEG      |
| Free Water       | scalar | *Visual   |            | NEG     | NEG      | NEG      |
| FLUID PROPERT    | IES    | method    | limit/base | current | history1 | history2 |
| Visc @ 40°C      | cSt    | ASTM D445 | 73         | 68.9    | 68.2     | 68.9     |
| SAMPLE IMAGES    |        | method    | limit/base | current | history1 | history2 |
| Color            |        |           |            | •       |          |          |
| Bottom           |        |           |            |         |          |          |



Contact/Location: SCOTTY SCOTT - BRATUTOK