

#### RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| PROBLEMATIC TE  | ST RESULTS        |                  |          |              |
|-----------------|-------------------|------------------|----------|--------------|
| Sample Status   |                   | ATTENTION        | NORMAL   | ATTENTION    |
| Particles >6µm  | ASTM D7647 >13    | 00 🔺 1754        | 811      | <b>1</b> 734 |
| Oil Cleanliness | ISO 4406 (c) >20/ | 17/14 🔺 20/18/13 | 19/17/12 | 🔺 20/18/13   |

Customer Id: HORFREWC Sample No.: WC0838761 Lab Number: 06010933 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Doug Bogart +1 (800)237-1369 x4016 dougb@wearcheckusa.com

*To change component or sample information:* Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>

#### **RECOMMENDED ACTIONS**

There are no recommended actions for this sample.

#### HISTORICAL DIAGNOSIS

#### 11 Aug 2023 Diag: Doug Bogart



Resample at the next service interval to monitor.All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



#### 04 May 2023 Diag: Don Baldridge



No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



01 Feb 2023 Diag: Don Baldridge

#### NORMAL



Resample at the next service interval to monitor.All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





## **OIL ANALYSIS REPORT**

#### Machine Id **F00509 - HSC 2-2 (S/N 3382)** Component

Refrigeration Compressor

VILTER 717 COMPRESSOR OIL ISO 68 (--- GAL)

### DIAGNOSIS

#### A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is a moderate 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.

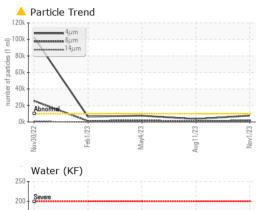
| GAL)             |               | Nov2022      | Feb2023    | May2023 Aug2023 | Nov2023     |             |
|------------------|---------------|--------------|------------|-----------------|-------------|-------------|
| SAMPLE INFORM    | <b>MATION</b> | method       | limit/base | current         | history1    | history2    |
| Sample Number    |               | Client Info  |            | WC0838761       | WC0481368   | WC0774987   |
| Sample Date      |               | Client Info  |            | 01 Nov 2023     | 11 Aug 2023 | 04 May 2023 |
| Machine Age      | hrs           | Client Info  |            | 0               | 5731        | 0           |
| Oil Age          | hrs           | Client Info  |            | 0               | 0           | 0           |
| Oil Changed      |               | Client Info  |            | N/A             | N/A         | N/A         |
| Sample Status    |               |              |            | ATTENTION       | NORMAL      | ATTENTION   |
| WEAR METALS      |               | method       | limit/base | current         | history1    | history2    |
| Iron             | ppm           | ASTM D5185m  | >8         | 0               | 0           | <1          |
| Chromium         | ppm           | ASTM D5185m  | >2         | 0               | 0           | 0           |
| Nickel           | ppm           | ASTM D5185m  |            | 0               | <1          | 0           |
| 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         | 0               | 0           | 0           |
| 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               | 1           | 0           |
| Molybdenum       | ppm           | ASTM D5185m  | 0          | 0               | 0           | 0           |
| Manganese        | ppm           | ASTM D5185m  |            | 0               | 0           | 0           |
| Magnesium        | ppm           | ASTM D5185m  | 0          | 0               | <1          | 0           |
| Calcium          | ppm           | ASTM D5185m  | 0          | 0               | 0           | 0           |
| Phosphorus       | ppm           | ASTM D5185m  | 0          | 1               | <1          | 0           |
| Zinc             | ppm           | ASTM D5185m  | 0          | 0               | 0           | 0           |
| Sulfur           | ppm           | ASTM D5185m  |            | 2               | 0           | 0           |
| CONTAMINANTS     | 3             | method       | limit/base | current         | history1    | history2    |
| Silicon          | ppm           | ASTM D5185m  | >15        | 0               | 0           | 0           |
| Sodium           | ppm           | ASTM D5185m  |            | 0               | 0           | 0           |
| Potassium        | ppm           | ASTM D5185m  | >20        | 0               | <1          | 1           |
| Water            | %             | ASTM D6304   | >0.01      | 0.002           | 0.002       | 0.001       |
| ppm Water        | ppm           | ASTM D6304   | >100       | 23.2            | 15.7        | 11.4        |
| FLUID CLEANLIN   | IESS          | method       | limit/base | current         | history1    | history2    |
| Particles >4µm   |               | ASTM D7647   | >10000     | 7706            | 3683        | 7601        |
| Particles >6µm   |               | ASTM D7647   | >1300      | 🔺 1754          | 811         | 1734        |
| Particles >14µm  |               | ASTM D7647   | >160       | 49              | 25          | 42          |
| Particles >21µm  |               | ASTM D7647   | >40        | 8               | 5           | 4           |
| Particles >38µm  |               | ASTM D7647   | >10        | 1               | 0           | 0           |
| Particles >71µm  |               | ASTM D7647   | >3         | 0               | 0           | 0           |
| Oil Cleanliness  |               | ISO 4406 (c) | >20/17/14  | <b>20/18/13</b> | 19/17/12    | ▲ 20/18/13  |
| FLUID DEGRADA    | TION          | method       | limit/base | current         | history1    | history2    |
| Acid Number (AN) | mg KOH/g      | ASTM D974    | 0.2        | 0.014           | 0.016       | 0.029       |

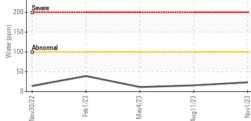
Sample Rating Trend

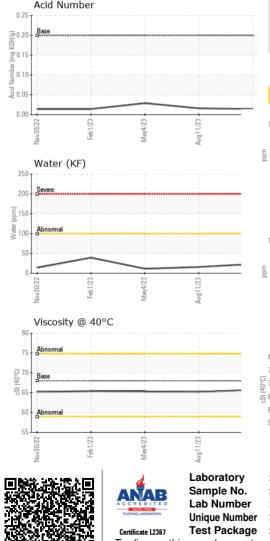
ISO



# **OIL ANALYSIS REPORT**

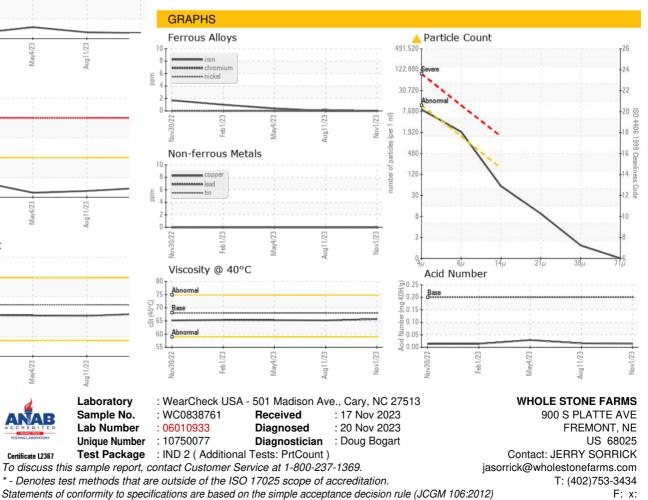






| VISUAL           |        | method    | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual   | NONE       | LIGHT   | NONE     | LIGHT    |
| 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    | TIES   | method    | limit/base | current | history1 | history2 |
| Visc @ 40°C      | cSt    | ASTM D445 | 68         | 65.7    | 65.2     | 65.3     |
| SAMPLE IMAGES    | S      | method    | limit/base | current | history1 | history2 |
| Color            |        |           |            |         |          |          |

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Contact/Location: JERRY SORRICK - HORFREWC