



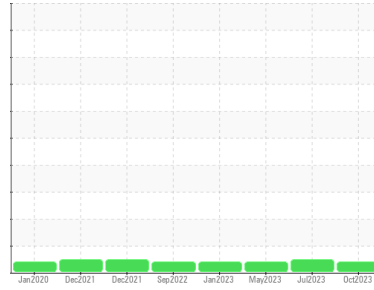
# PROBLEM SUMMARY

Sample Rating Trend

VISCOSITY

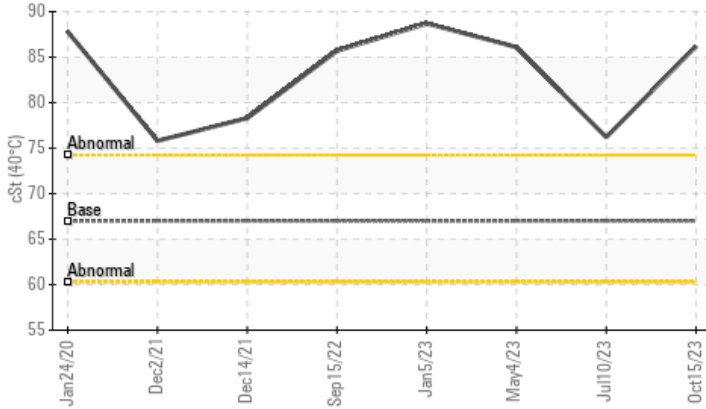


Machine Id  
**KR-FA-007004 - COMP 5**  
Component  
**Refrigeration Compressor**  
Fluid  
**USPI 1009-68 SC (--- GAL)**



## COMPONENT CONDITION SUMMARY

### ▲ Viscosity @ 40°C



## RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status |     |           |    | ABNORMAL | NORMAL | ABNORMAL |
|---------------|-----|-----------|----|----------|--------|----------|
| Visc @ 40°C   | cSt | ASTM D445 | 67 | ▲ 86.2   | 76.2   | ▲ 86.1   |

Customer Id: KRAKIRMO  
Sample No.: USP0001177  
Lab Number: 05979776  
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](mailto:dougb@wearcheckusa.com)

To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

| Action       | Status | Date | Done By | Description   |
|--------------|--------|------|---------|---|
| Change Fluid | ---    | ---  | ?       | We recommend that you drain the oil from the component if this has not already been done. |

## HISTORICAL DIAGNOSIS

### 10 Jul 2023 Diag: Doug Bogart

#### NORMAL



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

[view report](#)



### 04 May 2023 Diag: Doug Bogart

#### VISCOSITY



We recommend that you drain the oil from the component if this has not already been done. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The oil viscosity is higher than normal. Confirmed. The AN level is acceptable for this fluid. The oil is no longer serviceable.

[view report](#)



### 05 Jan 2023 Diag: Doug Bogart

#### VISCOSITY



We recommend that you drain the oil from the component if this has not already been done. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The oil viscosity is higher than normal. Confirmed. The AN level is acceptable for this fluid. The oil is no longer serviceable.

[view report](#)





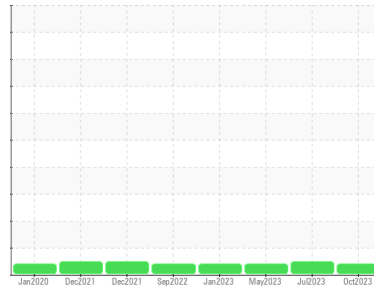
# OIL ANALYSIS REPORT

Sample Rating Trend

VISCOSITY



Machine Id  
**KR-FA-007004 - COMP 5**  
 Component  
**Refrigeration Compressor**  
 Fluid  
**USPI 1009-68 SC (--- GAL)**



## DIAGNOSIS

### Recommendation

We recommend that you drain the oil from the component if this has not already been done. 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 oil viscosity is higher than normal. Confirmed. The AN level is acceptable for this fluid. The oil is no longer serviceable.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2    |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info |             | <b>USP0001177</b>  | USP249322   | USP244326   |
| Sample Date   | Client Info |             | <b>15 Oct 2023</b> | 10 Jul 2023 | 04 May 2023 |
| Machine Age   | hrs         | Client Info | <b>0</b>           | 0           | 0           |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info |             | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>ABNORMAL</b>    | NORMAL      | ABNORMAL    |

## WEAR METALS

|          | method | limit/base     | current      | history1 | history2 |
|----------|--------|----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >8 | <b>2</b>     | <1       | <1       |
| Chromium | ppm    | ASTM D5185m >2 | <b>0</b>     | 0        | 0        |
| Nickel   | ppm    | ASTM D5185m    | <b>&lt;1</b> | 0        | 0        |
| Titanium | ppm    | ASTM D5185m    | <b>0</b>     | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >2 | <b>0</b>     | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >3 | <b>0</b>     | 1        | <1       |
| Lead     | ppm    | ASTM D5185m >2 | <b>&lt;1</b> | 0        | 0        |
| Copper   | ppm    | ASTM D5185m >8 | <b>&lt;1</b> | <1       | 0        |
| Tin      | ppm    | ASTM D5185m >4 | <b>&lt;1</b> | 0        | 0        |
| Vanadium | ppm    | ASTM D5185m    | <b>0</b>     | <1       | 0        |
| Cadmium  | ppm    | ASTM D5185m    | <b>0</b>     | <1       | 0        |

## ADDITIVES

|            | method | limit/base     | current      | history1 | history2 |
|------------|--------|----------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m    | <b>0</b>     | 0        | 0        |
| Barium     | ppm    | ASTM D5185m    | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m    | <b>0</b>     | 0        | 0        |
| Manganese  | ppm    | ASTM D5185m    | <b>0</b>     | <1       | <1       |
| Magnesium  | ppm    | ASTM D5185m    | <b>&lt;1</b> | 0        | 0        |
| Calcium    | ppm    | ASTM D5185m    | <b>&lt;1</b> | 0        | 0        |
| Phosphorus | ppm    | ASTM D5185m    | <b>0</b>     | 0        | 0        |
| Zinc       | ppm    | ASTM D5185m    | <b>4</b>     | 0        | 0        |
| Sulfur     | ppm    | ASTM D5185m 50 | <b>39</b>    | 32       | 0        |

## CONTAMINANTS

|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >15  | <b>0</b>     | 0        | 0        |
| Sodium    | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |
| Potassium | ppm    | ASTM D5185m >20  | <b>&lt;1</b> | <1       | 0        |
| Water     | %      | ASTM D6304 >0.01 | <b>0.001</b> | 0.001    | 0.003    |
| ppm Water | ppm    | ASTM D6304 >100  | <b>12.8</b>  | 0.8      | 25.7     |

## FLUID CLEANLINESS

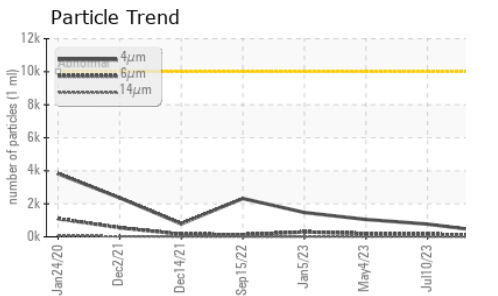
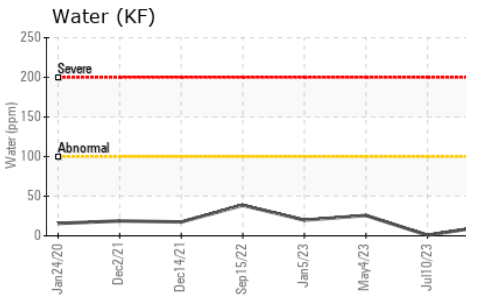
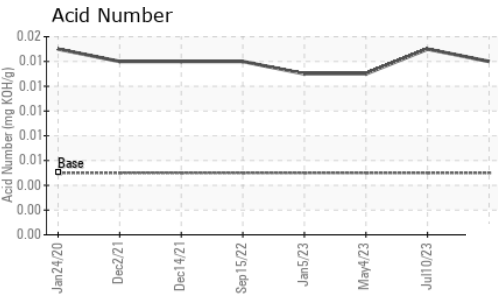
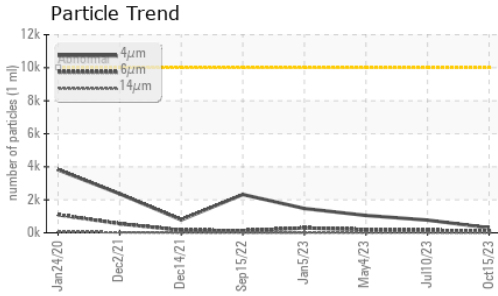
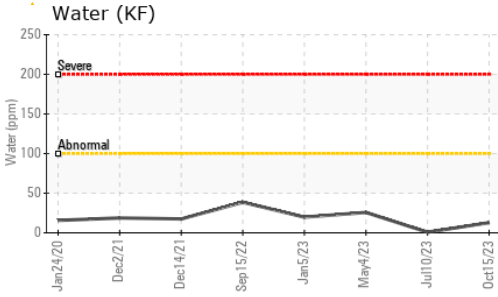
|                 | method       | limit/base | current         | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm  | ASTM D7647   | >10000     | <b>303</b>      | 771      | 1052     |
| Particles >6µm  | ASTM D7647   | >2500      | <b>91</b>       | 158      | 199      |
| Particles >14µm | ASTM D7647   | >640       | <b>8</b>        | 13       | 9        |
| Particles >21µm | ASTM D7647   | >160       | <b>2</b>        | 4        | 2        |
| Particles >38µm | ASTM D7647   | >40        | <b>0</b>        | 0        | 0        |
| Particles >71µm | ASTM D7647   | >10        | <b>0</b>        | 0        | 0        |
| Oil Cleanliness | ISO 4406 (c) | >20/18/16  | <b>15/14/10</b> | 17/14/11 | 17/15/10 |

## FLUID DEGRADATION

|                  | method   | limit/base      | current      | history1 | history2 |
|------------------|----------|-----------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974 0.005 | <b>0.014</b> | 0.015    | 0.013    |



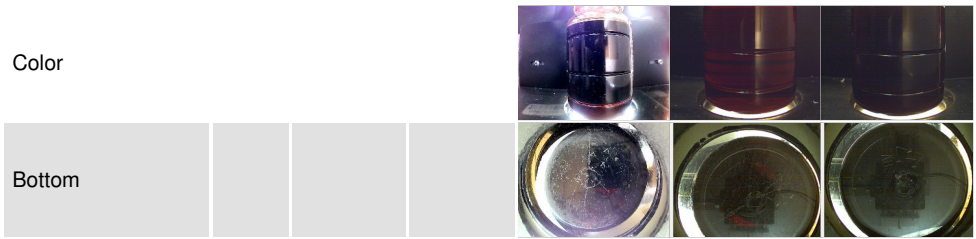
# OIL ANALYSIS REPORT



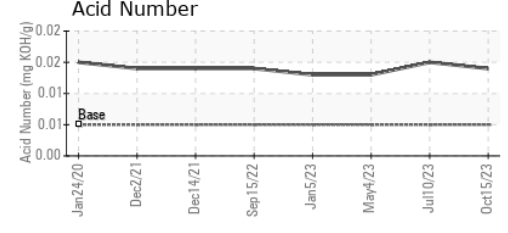
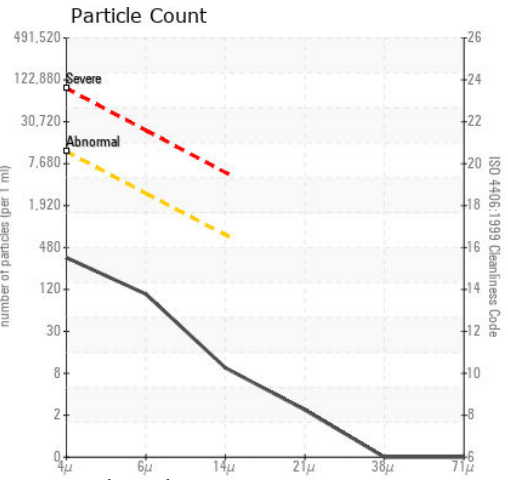
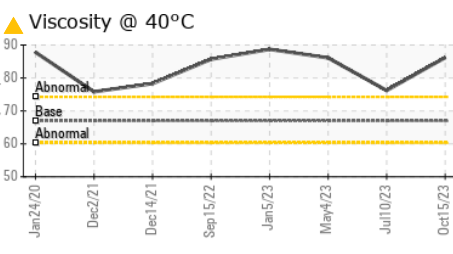
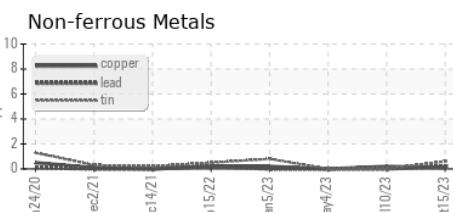
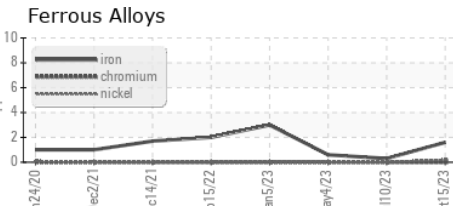
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual    | >0.01   | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base   | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445 67 | ▲ 86.2  | 76.2     | ▲ 86.1   |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : USP0001177 **Received** : 16 Oct 2023  
**Lab Number** : 05979776 **Diagnosed** : 17 Oct 2023  
**Unique Number** : 10697071 **Diagnostician** : Doug Bogart  
**Test Package** : IND 2

**KraftHeinz - Kirksville - Plant 8333 USP**  
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 KIRKSVILLE, MO  
 US 63501  
 Contact: LARRY WISKIRCHEN  
 larry.wiskirchen@kraftfoods.com  
 T: (660)627-1031  
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.  
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)