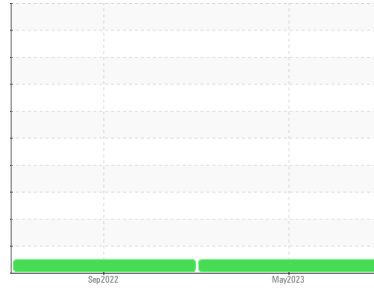




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**KAESER CSD 100T 8354679 (S/N 1139)**

Component  
**Compressor**

Fluid  
**KAESER SIGMA (OEM) S-460 (--- QTS)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

The amount and size of particulates present in the system are acceptable. 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.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2 |
|---------------|-------------|-------------|--------------------|-------------|----------|
| Sample Number | Client Info |             | <b>KC111933</b>    | KC104705    | ---      |
| Sample Date   | Client Info |             | <b>18 May 2023</b> | 02 Sep 2022 | ---      |
| Machine Age   | hrs         | Client Info | <b>5737</b>        | 2698        | ---      |
| Oil Age       | hrs         | Client Info | <b>4000</b>        | 800         | ---      |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Not Changd  | ---      |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | ---      |

## WEAR METALS

|          | method | limit/base      | current      | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >50 | <b>&lt;1</b> | <1       | ---      |
| Chromium | ppm    | ASTM D5185m >10 | <b>0</b>     | 0        | ---      |
| Nickel   | ppm    | ASTM D5185m >3  | <b>0</b>     | 0        | ---      |
| Titanium | ppm    | ASTM D5185m >3  | <b>0</b>     | 0        | ---      |
| Silver   | ppm    | ASTM D5185m >2  | <b>0</b>     | 0        | ---      |
| Aluminum | ppm    | ASTM D5185m >10 | <b>0</b>     | 1        | ---      |
| Lead     | ppm    | ASTM D5185m >10 | <b>0</b>     | <1       | ---      |
| Copper   | ppm    | ASTM D5185m >50 | <b>5</b>     | 3        | ---      |
| Tin      | ppm    | ASTM D5185m >10 | <b>0</b>     | 0        | ---      |
| Vanadium | ppm    | ASTM D5185m     | <b>0</b>     | 0        | ---      |
| Cadmium  | ppm    | ASTM D5185m     | <b>0</b>     | 0        | ---      |

## ADDITIVES

|            | method | limit/base     | current      | history1 | history2 |
|------------|--------|----------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m    | <b>0</b>     | 0        | ---      |
| Barium     | ppm    | ASTM D5185m 90 | <b>0</b>     | 0        | ---      |
| Molybdenum | ppm    | ASTM D5185m    | <b>0</b>     | 0        | ---      |
| Manganese  | ppm    | ASTM D5185m    | <b>0</b>     | 0        | ---      |
| Magnesium  | ppm    | ASTM D5185m 90 | <b>1</b>     | 14       | ---      |
| Calcium    | ppm    | ASTM D5185m 2  | <b>2</b>     | 0        | ---      |
| Phosphorus | ppm    | ASTM D5185m    | <b>&lt;1</b> | 0        | ---      |
| Zinc       | ppm    | ASTM D5185m    | <b>0</b>     | 0        | ---      |

## CONTAMINANTS

|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25  | <b>3</b>     | 6        | ---      |
| Sodium    | ppm    | ASTM D5185m      | <b>&lt;1</b> | 0        | ---      |
| Potassium | ppm    | ASTM D5185m >20  | <b>0</b>     | 1        | ---      |
| Water     | %      | ASTM D6304 >0.05 | <b>0.007</b> | 0.011    | ---      |
| ppm Water | ppm    | ASTM D6304 >500  | <b>79.6</b>  | 118.3    | ---      |

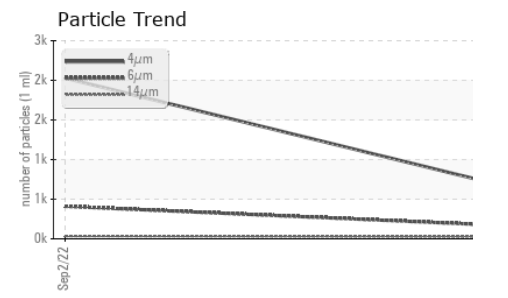
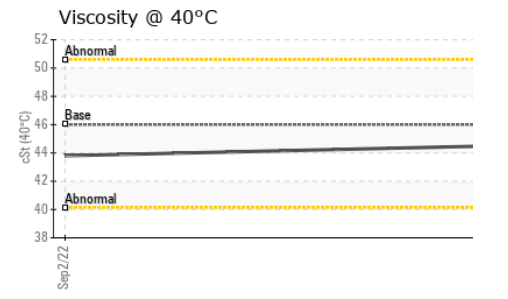
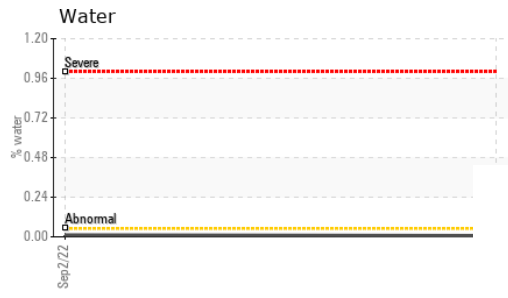
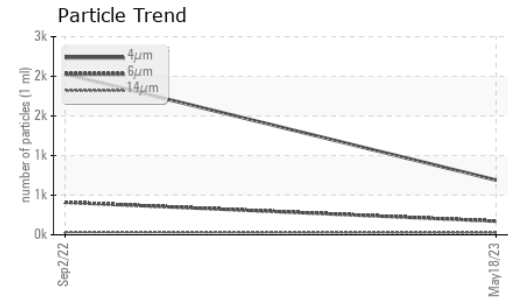
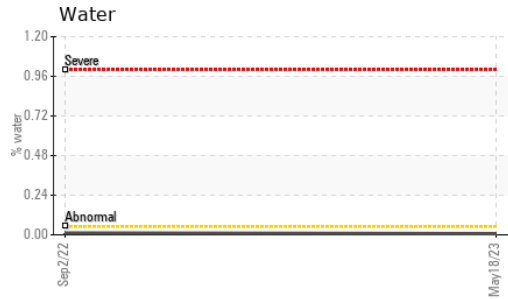
## FLUID CLEANLINESS

|                 | method           | limit/base | current         | history1 | history2 |
|-----------------|------------------|------------|-----------------|----------|----------|
| Particles >4µm  | ASTM D7647       |            | <b>691</b>      | 2029     | ---      |
| Particles >6µm  | ASTM D7647 >1300 |            | <b>172</b>      | 410      | ---      |
| Particles >14µm | ASTM D7647 >80   |            | <b>27</b>       | 35       | ---      |
| Particles >21µm | ASTM D7647 >20   |            | <b>10</b>       | 8        | ---      |
| Particles >38µm | ASTM D7647 >4    |            | <b>0</b>        | 1        | ---      |
| Particles >71µm | ASTM D7647 >3    |            | <b>0</b>        | 0        | ---      |
| Oil Cleanliness | ISO 4406 (c)     | >--/17/13  | <b>17/15/12</b> | 18/16/12 | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base     | current     | history1 | history2 |
|------------------|----------|----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.4 | <b>0.33</b> | 0.41     | ---      |

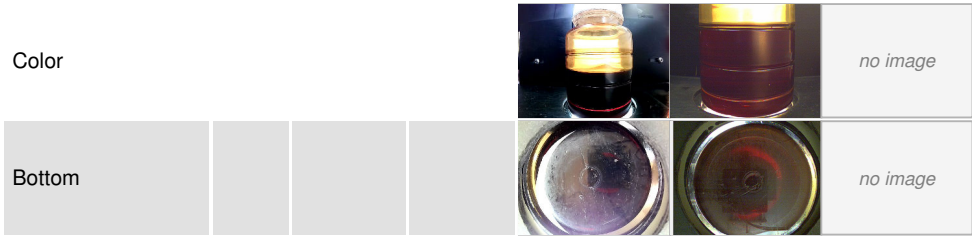
# OIL ANALYSIS REPORT



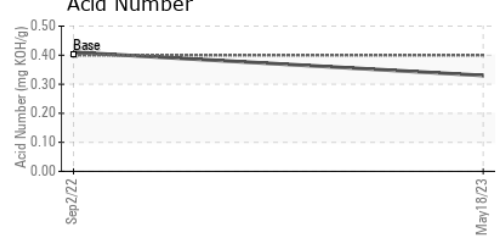
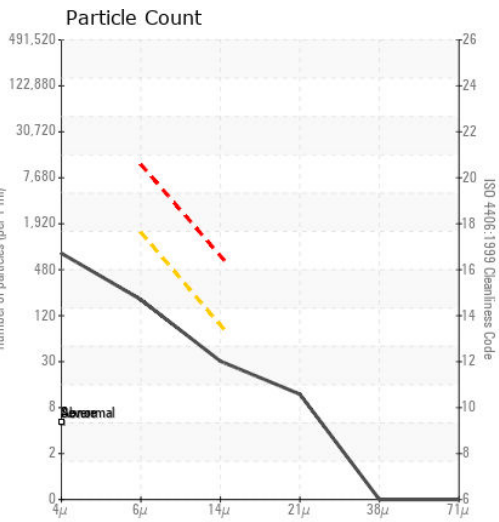
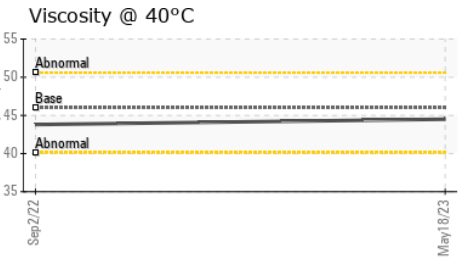
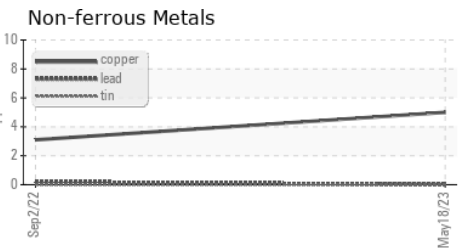
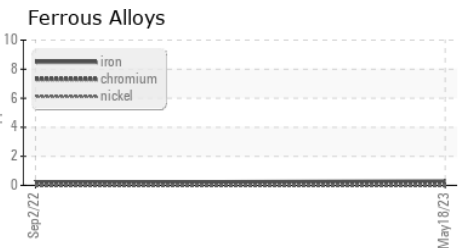
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | ---      |
| 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    | ---      |
| Emulsified Water | scalar | *Visual    | >0.05   | NEG      | ---      |
| Free Water       | scalar | *Visual    |         | NEG      | ---      |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445  | 46      | 44.5     | 43.8     |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KC111933 **Received** : 24 Aug 2023  
**Lab Number** : 05933658 **Diagnosed** : 25 Aug 2023  
**Unique Number** : 10618929 **Diagnostician** : Doug Bogart  
**Test Package** : IND 2

**BRIDGEWATER INTERIORS**  
 7500 TANK AVE  
 WARREN, MI  
 US 48092  
 Contact: Service Manager

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)

T:  
F: