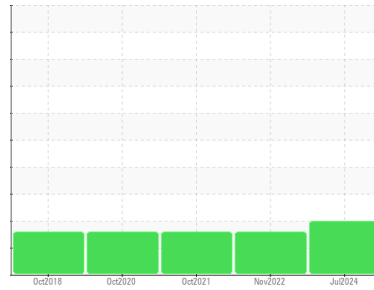




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id

**KAESER AS 31 1778066 (S/N 1223)**

Component

**Compressor**

Fluid

**KAESER SIGMA (OEM) M-460 (--- GAL)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of particulates present 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>KCPA016201</b>  | KCP52141    | KCP38809    |
| Sample Date   | Client Info |             | <b>03 Jul 2024</b> | 28 Nov 2022 | 28 Oct 2021 |
| Machine Age   | hrs         | Client Info | <b>42287</b>       | 39165       | 38251       |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 914         | 0           |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Changed     | Changed     |
| Sample Status |             |             | <b>ABNORMAL</b>    | ABNORMAL    | ABNORMAL    |

## WEAR METALS

|          | method | limit/base      | current    | history1 | history2 |
|----------|--------|-----------------|------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >50 | <b>0</b>   | <1       | <1       |
| Chromium | ppm    | ASTM D5185m >10 | <b>0</b>   | 0        | 0        |
| Nickel   | ppm    | ASTM D5185m >3  | <b>0</b>   | 0        | 0        |
| Titanium | ppm    | ASTM D5185m >3  | <b>0</b>   | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >2  | <b>0</b>   | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >10 | <b>0</b>   | <1       | 0        |
| Lead     | ppm    | ASTM D5185m >10 | <b>0</b>   | 0        | 0        |
| Copper   | ppm    | ASTM D5185m >50 | <b>3</b>   | 2        | 4        |
| Tin      | ppm    | ASTM D5185m >10 | <b>0</b>   | 0        | 0        |
| Antimony | ppm    | ASTM D5185m     | <b>---</b> | ---      | 0        |
| Vanadium | ppm    | ASTM D5185m     | <b>0</b>   | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m     | <b>0</b>   | 0        | 0        |

## ADDITIVES

|            | method | limit/base        | current      | history1 | history2 |
|------------|--------|-------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 0     | <b>0</b>     | 0        | <1       |
| Barium     | ppm    | ASTM D5185m 90    | <b>&lt;1</b> | 7        | <1       |
| Molybdenum | ppm    | ASTM D5185m 0     | <b>0</b>     | 0        | 0        |
| Manganese  | ppm    | ASTM D5185m       | <b>0</b>     | <1       | <1       |
| Magnesium  | ppm    | ASTM D5185m 100   | <b>23</b>    | 76       | 51       |
| Calcium    | ppm    | ASTM D5185m 0     | <b>&lt;1</b> | 0        | 0        |
| Phosphorus | ppm    | ASTM D5185m 0     | <b>3</b>     | 3        | 2        |
| Zinc       | ppm    | ASTM D5185m 0     | <b>8</b>     | 13       | 22       |
| Sulfur     | ppm    | ASTM D5185m 23500 | <b>20123</b> | 22300    | 19017    |

## CONTAMINANTS

|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25  | <b>0</b>     | 0        | <1       |
| Sodium    | ppm    | ASTM D5185m      | <b>9</b>     | 21       | 12       |
| Potassium | ppm    | ASTM D5185m >20  | <b>&lt;1</b> | 2        | 0        |
| Water     | %      | ASTM D6304 >0.05 | <b>0.016</b> | 0.038    | 0.021    |
| ppm Water | ppm    | ASTM D6304 >500  | <b>169</b>   | 383.3    | 210.2    |

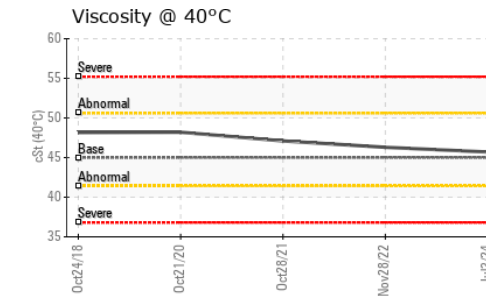
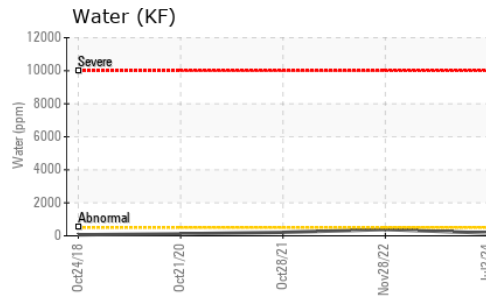
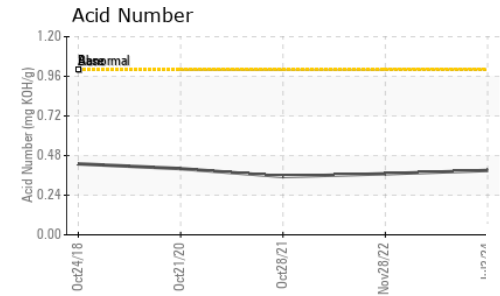
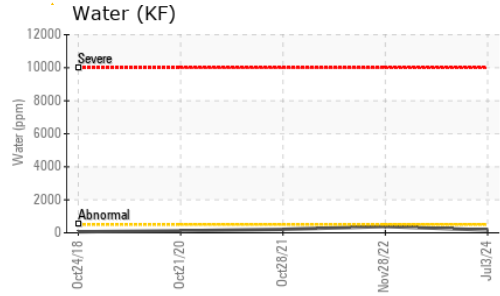
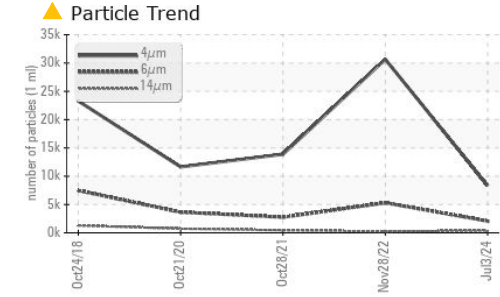
## FLUID CLEANLINESS

|                 | method                 | limit/base | current           | history1   | history2 |
|-----------------|------------------------|------------|-------------------|------------|----------|
| Particles >4µm  | ASTM D7647             |            | <b>8319</b>       | 30653      | 13891    |
| Particles >6µm  | ASTM D7647 >1300       |            | <b>▲ 2075</b>     | ▲ 5307     | ▲ 2762   |
| Particles >14µm | ASTM D7647 >80         |            | <b>▲ 388</b>      | ▲ 222      | ▲ 445    |
| Particles >21µm | ASTM D7647 >20         |            | <b>▲ 162</b>      | ● 39       | ▲ 148    |
| Particles >38µm | ASTM D7647 >4          |            | <b>▲ 14</b>       | 2          | ▲ 6      |
| Particles >71µm | ASTM D7647 >3          |            | <b>1</b>          | 0          | 0        |
| Oil Cleanliness | ISO 4406 (c) >--/17/13 |            | <b>▲ 20/18/16</b> | ▲ 22/20/15 | ▲ 19/16  |

## FLUID DEGRADATION

|                  | method   | limit/base     | current     | history1 | history2 |
|------------------|----------|----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 1.0 | <b>0.39</b> | 0.37     | 0.353    |

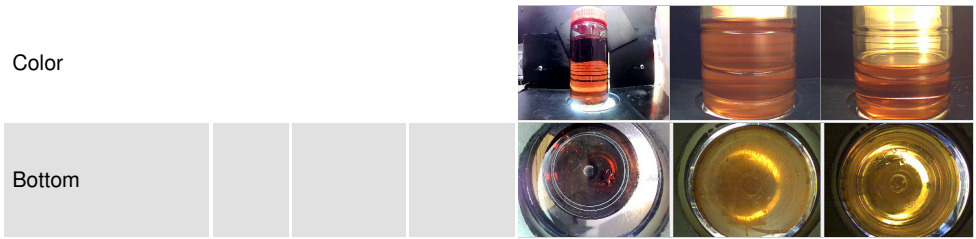
# OIL ANALYSIS REPORT



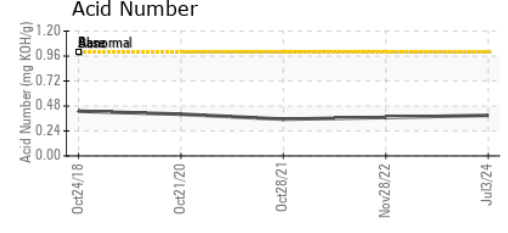
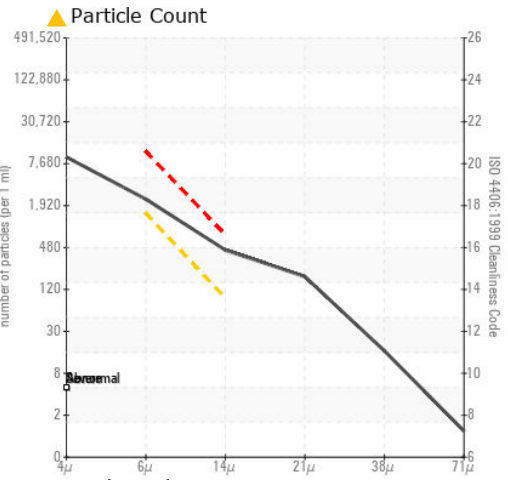
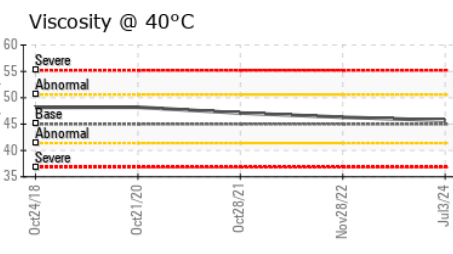
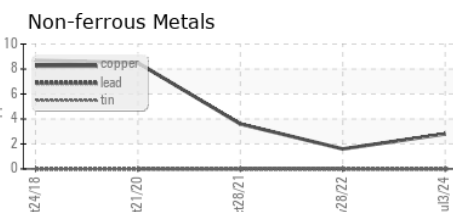
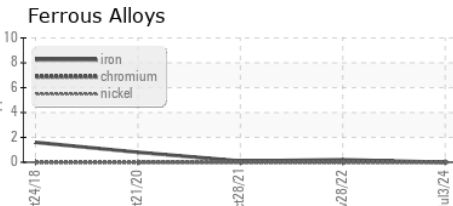
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | LIGHT    |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | LIGHT    | NONE     |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual    | >0.05   | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445  | 45      | 45.7     | 46.3     |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCPA016201 **Received** : 12 Jul 2024  
**Lab Number** : 06234901 **Tested** : 15 Jul 2024  
**Unique Number** : 11123735 **Diagnosed** : 15 Jul 2024 - Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**WOODMASTER**  
 204 ROD AND GUN RD  
 NEWMANSTOWN, PA  
 US 17073  
 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)