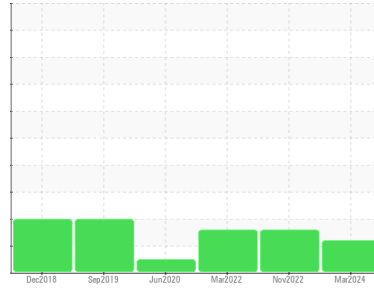




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id  
**KAESER SM 11 1418914 (S/N 01116034)**

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 moderate 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>KCPA015764</b>  | KCP47663D   | KCP38628    |
| Sample Date   | Client Info |             | <b>20 Mar 2024</b> | 23 Nov 2022 | 04 Mar 2022 |
| Machine Age   | hrs         | Client Info | <b>64346</b>       | 63077       | 62191       |
| Oil Age       | hrs         | Client Info | <b>3000</b>        | 0           | 1172        |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Changed     | Changed     |
| Sample Status |             |             | <b>ATTENTION</b>   | ABNORMAL    | ABNORMAL    |

## WEAR METALS

|          | method | limit/base      | current      | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >50 | <b>0</b>     | 0        | <1       |
| Chromium | ppm    | ASTM D5185m >10 | <b>&lt;1</b> | 0        | 0        |
| Nickel   | ppm    | ASTM D5185m >3  | <b>&lt;1</b> | 0        | 0        |
| Titanium | ppm    | ASTM D5185m >3  | <b>&lt;1</b> | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >2  | <b>&lt;1</b> | 0        | 0        |
| Aluminum | ppm    | ASTM D5185m >10 | <b>2</b>     | 0        | 0        |
| Lead     | ppm    | ASTM D5185m >10 | <b>&lt;1</b> | 0        | 0        |
| Copper   | ppm    | ASTM D5185m >50 | <b>4</b>     | 5        | 4        |
| Tin      | ppm    | ASTM D5185m >10 | <b>&lt;1</b> | 0        | 0        |
| Antimony | ppm    | ASTM D5185m     | <b>---</b>   | ---      | ---      |
| Vanadium | ppm    | ASTM D5185m     | <b>&lt;1</b> | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m     | <b>&lt;1</b> | 0        | 0        |

## ADDITIVES

|            | method | limit/base        | current      | history1 | history2 |
|------------|--------|-------------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m 0     | <b>0</b>     | 0        | 0        |
| Barium     | ppm    | ASTM D5185m 90    | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m 0     | <b>&lt;1</b> | 0        | 0        |
| Manganese  | ppm    | ASTM D5185m       | <b>&lt;1</b> | 0        | 0        |
| Magnesium  | ppm    | ASTM D5185m 100   | <b>4</b>     | 0        | 0        |
| Calcium    | ppm    | ASTM D5185m 0     | <b>3</b>     | 0        | 0        |
| Phosphorus | ppm    | ASTM D5185m 0     | <b>0</b>     | 2        | 3        |
| Zinc       | ppm    | ASTM D5185m 0     | <b>0</b>     | <1       | 0        |
| Sulfur     | ppm    | ASTM D5185m 23500 | <b>18450</b> | 21191    | 18657    |

## CONTAMINANTS

|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25  | <b>&lt;1</b> | 0        | <1       |
| Sodium    | ppm    | ASTM D5185m      | <b>0</b>     | <1       | 0        |
| Potassium | ppm    | ASTM D5185m >20  | <b>1</b>     | 0        | 0        |
| Water     | %      | ASTM D6304 >0.05 | <b>0.004</b> | 0.008    | 0.006    |
| ppm Water | ppm    | ASTM D6304 >500  | <b>44</b>    | 87.7     | 66.1     |

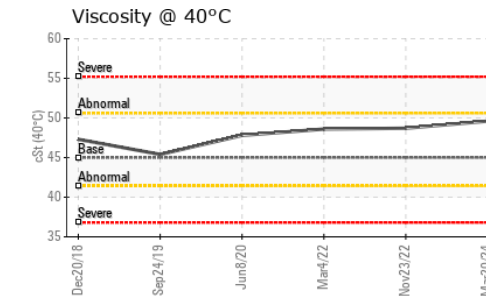
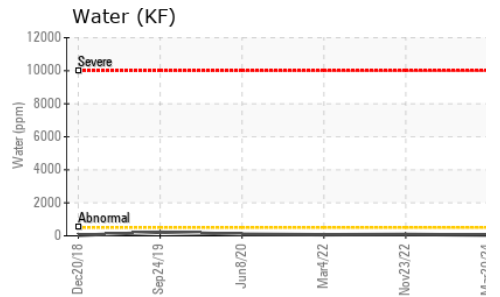
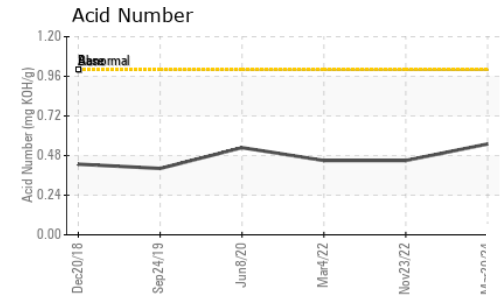
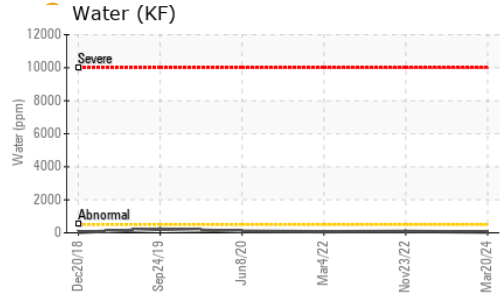
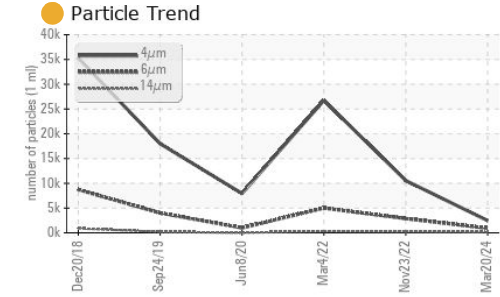
## FLUID CLEANLINESS

|                 | method                 | limit/base | current           | history1   | history2 |
|-----------------|------------------------|------------|-------------------|------------|----------|
| Particles >4µm  | ASTM D7647             |            | <b>2456</b>       | 10552      | 26739    |
| Particles >6µm  | ASTM D7647 >1300       |            | <b>932</b>        | ▲ 2879     | ▲ 5008   |
| Particles >14µm | ASTM D7647 >80         |            | ● <b>116</b>      | ▲ 236      | ▲ 320    |
| Particles >21µm | ASTM D7647 >20         |            | ● <b>33</b>       | ▲ 52       | ▲ 93     |
| Particles >38µm | ASTM D7647 >4          |            | <b>3</b>          | 6          | ▲ 9      |
| Particles >71µm | ASTM D7647 >3          |            | <b>0</b>          | 1          | 1        |
| Oil Cleanliness | ISO 4406 (c) >--/17/13 |            | ● <b>18/17/14</b> | ▲ 21/19/15 | ▲ 20/15  |

## FLUID DEGRADATION

|                  | method   | limit/base     | current     | history1 | history2 |
|------------------|----------|----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 1.0 | <b>0.55</b> | 0.45     | 0.45     |

# OIL ANALYSIS REPORT

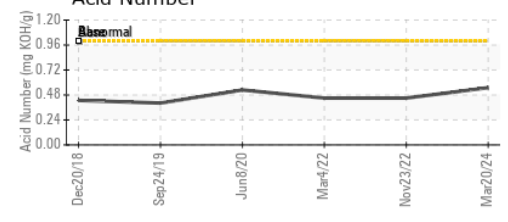
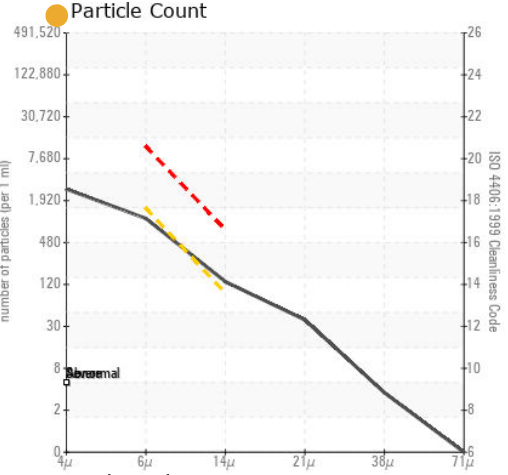
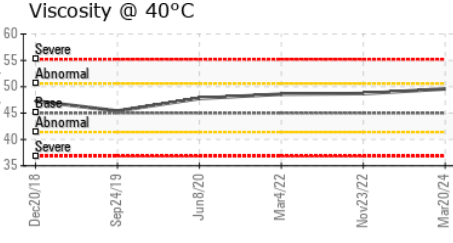
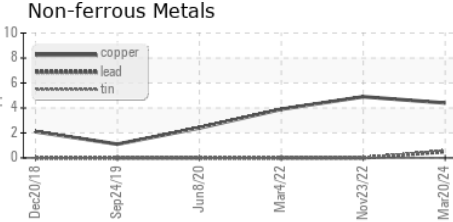
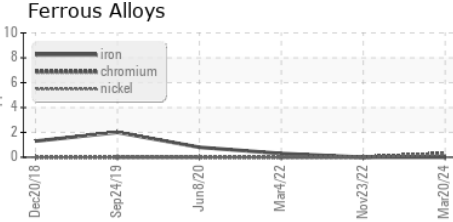


| VISUAL           | method | limit/base | current | history1     | history2 |
|------------------|--------|------------|---------|--------------|----------|
| White Metal      | scalar | *Visual    | NONE    | <b>LIGHT</b> | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | <b>NONE</b>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

| FLUID PROPERTIES | method | limit/base   | current     | history1 | history2 |
|------------------|--------|--------------|-------------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445 45 | <b>49.6</b> | 48.7     | 48.6     |

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

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCPA015764  
**Lab Number** : 06131429  
**Unique Number** : 10950894  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**PENSKE TRUCK LEASING**  
 5 NASHUA CT  
 BALTIMORE, MD  
 US 21221  
 Contact: DYLAN KAMMER  
 dylan.kammer@penske.com

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)