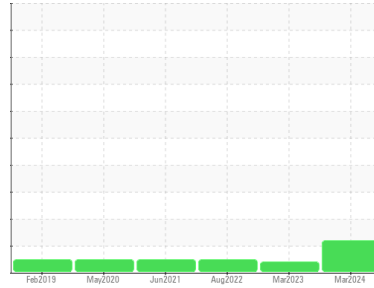




# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Machine Id  
**KAESER CSD100 655530 (S/N 1293)**

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 silt (particulates < 14 microns in size) present in the oil.

#### Fluid Condition

The oil viscosity is higher than normal. The AN level is acceptable for this fluid.

| SAMPLE INFORMATION |             | method      | limit/base | current            | history1    | history2    |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number      | Client Info |             |            | <b>KCPA015704</b>  | KCP52114    | KCP30937    |
| Sample Date        | Client Info |             |            | <b>18 Mar 2024</b> | 10 Mar 2023 | 26 Aug 2022 |
| Machine Age        | hrs         | Client Info |            | <b>32598</b>       | 26367       | 23244       |
| Oil Age            | hrs         | Client Info |            | <b>0</b>           | 10651       | 7530        |
| Oil Changed        | Client Info |             |            | <b>Changed</b>     | Changed     | Not Changed |
| Sample Status      |             |             |            | <b>ATTENTION</b>   | ATTENTION   | NORMAL      |

| WEAR METALS |     | method      | limit/base | current    | history1 | history2 |
|-------------|-----|-------------|------------|------------|----------|----------|
| Iron        | ppm | ASTM D5185m | >50        | <b>0</b>   | 0        | 2        |
| 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>   | <1       | 0        |
| Silver      | ppm | ASTM D5185m | >2         | <b>0</b>   | 0        | 0        |
| Aluminum    | ppm | ASTM D5185m | >10        | <b>0</b>   | 0        | 2        |
| Lead        | ppm | ASTM D5185m | >10        | <b>0</b>   | 0        | 0        |
| Copper      | ppm | ASTM D5185m | >50        | <b>5</b>   | 8        | 7        |
| Tin         | ppm | ASTM D5185m | >10        | <b>0</b>   | 0        | 0        |
| Antimony    | ppm | ASTM D5185m |            | <b>---</b> | ---      | ---      |
| Vanadium    | ppm | ASTM D5185m |            | <b>0</b>   | 0        | 0        |
| Cadmium     | ppm | ASTM D5185m |            | <b>0</b>   | 0        | 0        |

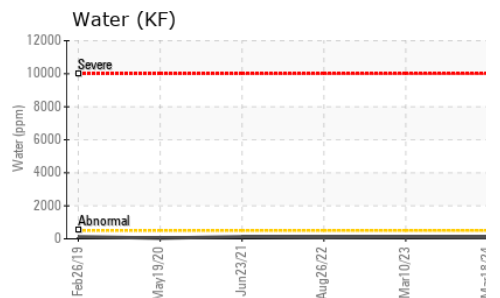
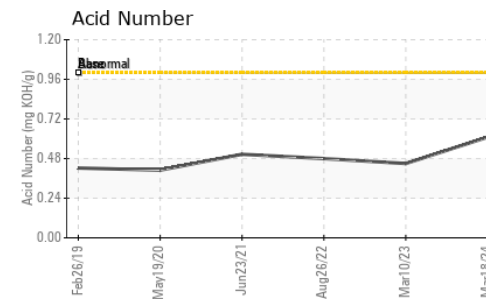
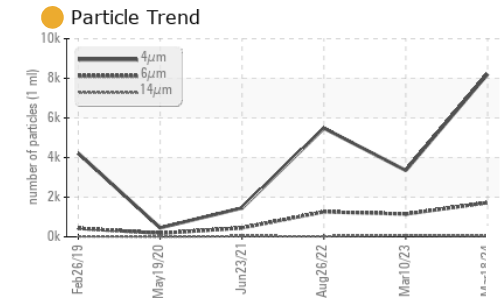
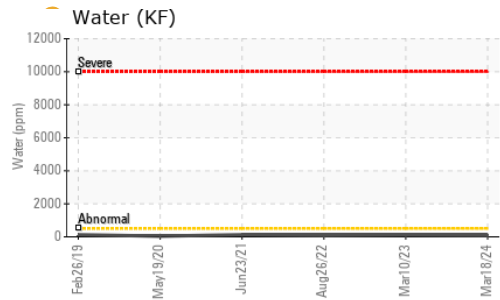
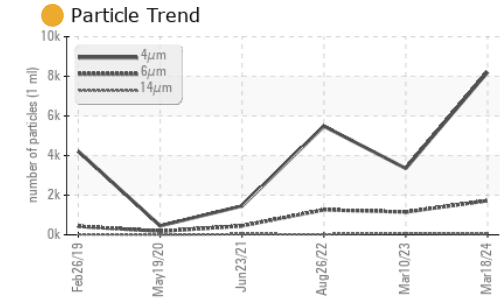
| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m | 0          | <b>0</b>     | 0        | 0        |
| Barium     | ppm | ASTM D5185m | 90         | <b>0</b>     | 0        | 0        |
| 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>&lt;1</b> | <1       | 5        |
| Calcium    | ppm | ASTM D5185m | 0          | <b>0</b>     | 0        | 0        |
| Phosphorus | ppm | ASTM D5185m | 0          | <b>0</b>     | 0        | 0        |
| Zinc       | ppm | ASTM D5185m | 0          | <b>0</b>     | 0        | 28       |
| Sulfur     | ppm | ASTM D5185m | 23500      | <b>16147</b> | 18908    | 19179    |

| CONTAMINANTS |     | method      | limit/base | current      | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >25        | <b>0</b>     | <1       | <1       |
| Sodium       | ppm | ASTM D5185m |            | <b>1</b>     | <1       | 2        |
| Potassium    | ppm | ASTM D5185m | >20        | <b>0</b>     | 0        | <1       |
| Water        | %   | ASTM D6304  | >0.05      | <b>0.007</b> | 0.011    | 0.007    |
| ppm Water    | ppm | ASTM D6304  | >500       | <b>77</b>    | 115.8    | 79.4     |

| FLUID CLEANLINESS |  | method       | limit/base | current         | history1 | history2 |
|-------------------|--|--------------|------------|-----------------|----------|----------|
| Particles >4µm    |  | ASTM D7647   |            | <b>8213</b>     | 3350     | 5482     |
| Particles >6µm    |  | ASTM D7647   | >1300      | <b>1725</b>     | 1149     | 1259     |
| Particles >14µm   |  | ASTM D7647   | >80        | <b>42</b>       | 68       | 25       |
| Particles >21µm   |  | ASTM D7647   | >20        | <b>5</b>        | 12       | 2        |
| Particles >38µm   |  | ASTM D7647   | >4         | <b>0</b>        | 1        | 0        |
| Particles >71µm   |  | ASTM D7647   | >3         | <b>0</b>        | 0        | 0        |
| Oil Cleanliness   |  | ISO 4406 (c) | >--/17/13  | <b>20/18/13</b> | 19/17/13 | 20/17/12 |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 | 1.0        | <b>0.61</b> | 0.45     | 0.48     |

# OIL ANALYSIS REPORT

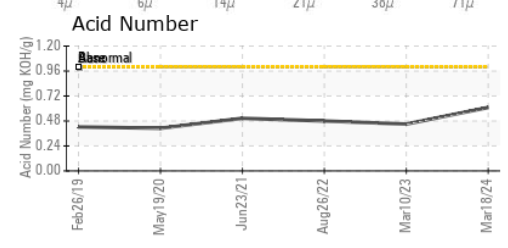
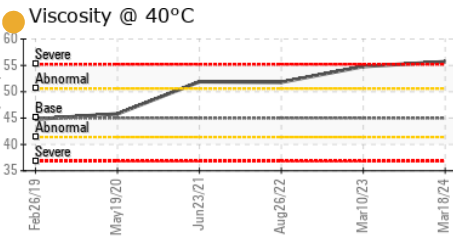
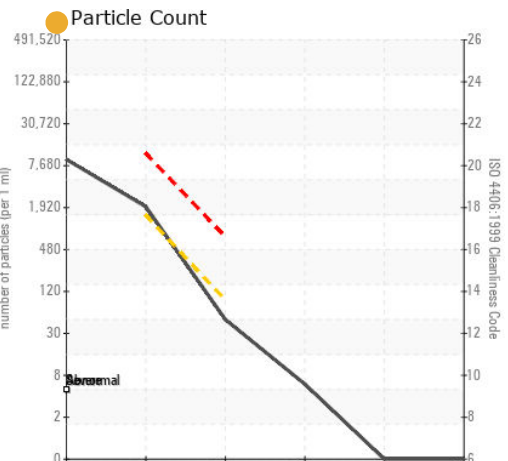
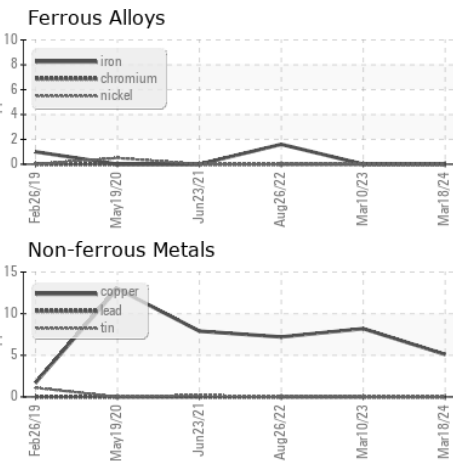


| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
|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

| FLUID PROPERTIES | method | limit/base   | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445 45 | 55.7    | 54.8     | 51.8     |

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

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCPA015704 **Received** : 21 Mar 2024  
**Lab Number** : 06125704 **Tested** : 22 Mar 2024  
**Unique Number** : 10939855 **Diagnosed** : 25 Mar 2024 - Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**BUZZI UNICEM USA**  
 1702 SECOND AVE N  
 NASHVILLE, TN  
 US 37208  
 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)