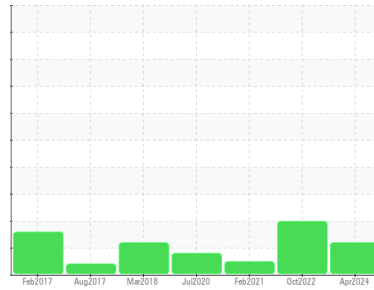




# OIL ANALYSIS REPORT

## Sample Rating Trend



ISO



Machine Id  
**KAESER SM 10 4969918 - 1261**  
 Component  
**Compressor**  
 Fluid  
**KAESER SIGMA (OEM) S-460 (--- GAL)**

### DIAGNOSIS

#### Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. 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>KCPA015986</b>  | KCP46541D   | KCP28344    |
| Sample Date        | Client Info |             |            | <b>03 Apr 2024</b> | 17 Oct 2022 | 08 Feb 2021 |
| Machine Age        | hrs         | Client Info |            | <b>64670</b>       | 57758       | 49054       |
| Oil Age            | hrs         | Client Info |            | <b>1027</b>        | 4706        | 4855        |
| Oil Changed        | Client Info |             |            | <b>Changed</b>     | Not Changd  | Changed     |
| Sample Status      |             |             |            | <b>ATTENTION</b>   | ABNORMAL    | NORMAL      |

| 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>14</b>    | 24       | 12       |
| Tin         | ppm | ASTM D5185m | >10        | <b>&lt;1</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        |

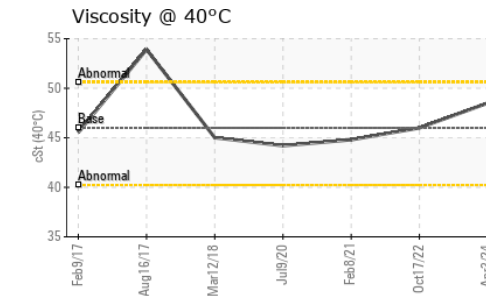
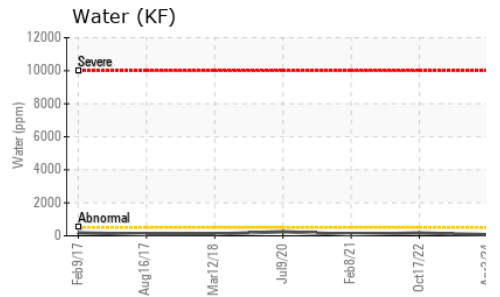
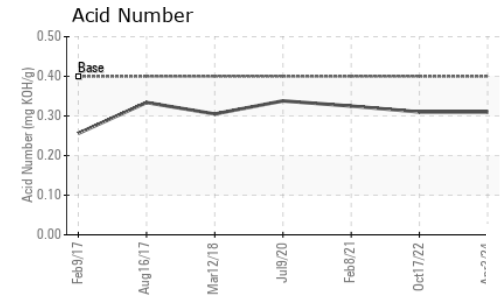
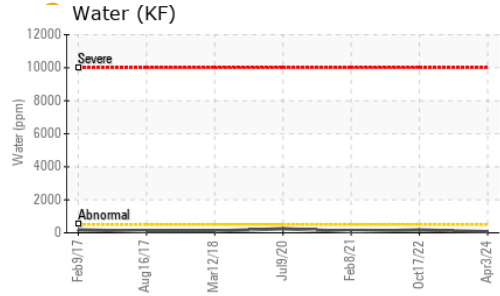
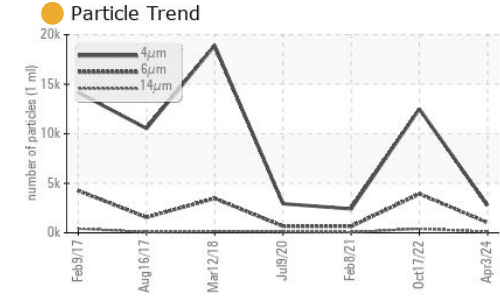
| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Barium     | ppm | ASTM D5185m | 90         | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Manganese  | ppm | ASTM D5185m |            | <b>&lt;1</b> | 0        | 0        |
| Magnesium  | ppm | ASTM D5185m | 90         | <b>14</b>    | 30       | 6        |
| Calcium    | ppm | ASTM D5185m | 2          | <b>&lt;1</b> | 0        | 0        |
| Phosphorus | ppm | ASTM D5185m |            | <b>2</b>     | 2        | 5        |
| Zinc       | ppm | ASTM D5185m |            | <b>11</b>    | 18       | 28       |
| Sulfur     | ppm | ASTM D5185m |            | <b>21287</b> | 19545    | 14418    |

| CONTAMINANTS |     | method      | limit/base | current      | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >25        | <b>0</b>     | <1       | <1       |
| Sodium       | ppm | ASTM D5185m |            | <b>8</b>     | 18       | <1       |
| Potassium    | ppm | ASTM D5185m | >20        | <b>2</b>     | 1        | 2        |
| Water        | %   | ASTM D6304  | >0.05      | <b>0.006</b> | 0.017    | 0.008    |
| ppm Water    | ppm | ASTM D6304  | >500       | <b>69</b>    | 172.9    | 80.4     |

| FLUID CLEANLINESS |  | method       | limit/base | current           | history1 | history2 |
|-------------------|--|--------------|------------|-------------------|----------|----------|
| Particles >4µm    |  | ASTM D7647   |            | <b>2759</b>       | 12502    | 2419     |
| Particles >6µm    |  | ASTM D7647   | >1300      | <b>1026</b>       | ▲ 3928   | 651      |
| Particles >14µm   |  | ASTM D7647   | >80        | ● <b>111</b>      | ▲ 407    | 55       |
| Particles >21µm   |  | ASTM D7647   | >20        | ● <b>26</b>       | ▲ 89     | 17       |
| Particles >38µm   |  | ASTM D7647   | >4         | <b>1</b>          | ● 9      | 0        |
| Particles >71µm   |  | ASTM D7647   | >3         | <b>1</b>          | 1        | 0        |
| Oil Cleanliness   |  | ISO 4406 (c) | >--/17/13  | ● <b>19/17/14</b> | ▲ 19/16  | 17/13    |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 | 0.4        | <b>0.31</b> | 0.31     | 0.325    |

# OIL ANALYSIS REPORT

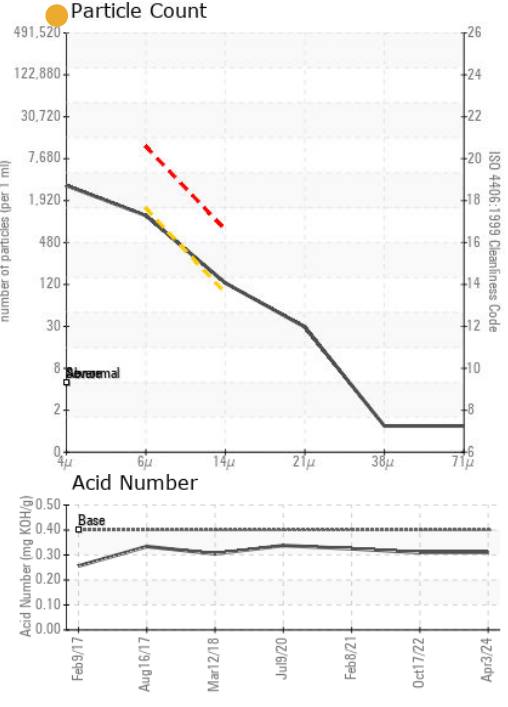
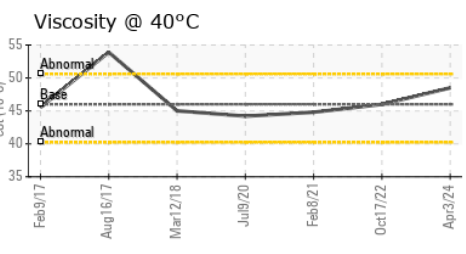
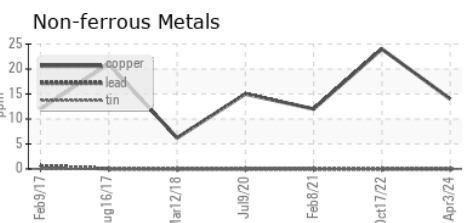
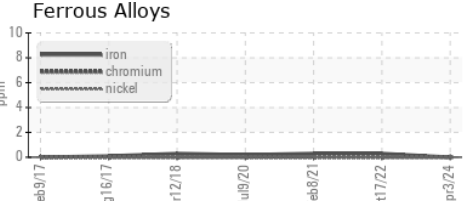


| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| 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 46 | 48.5    | 46.0     | 44.8     |

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

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCPA015986 **Received** : 18 Apr 2024  
**Lab Number** : 06153139 **Tested** : 19 Apr 2024  
**Unique Number** : 10983217 **Diagnosed** : 22 Apr 2024 - Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**OLD DOMINION**  
 2098 SPIRIT OF 76 DR  
 MEMPHIS, TN  
 US 38116  
 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)