

# **OIL ANALYSIS REPORT**

# KAESER SK 15 5865145 (S/N 2036) Component

Compressor

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

## DIAGNOSIS

### Recommendation

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

## Wear

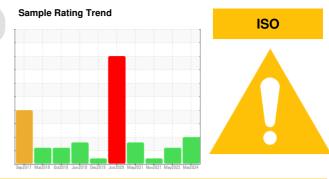
All component wear rates are normal.

### 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.



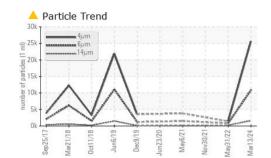
| SAMPLE INFORM    | <b>IATION</b> | method       | limit/base | current           | history1      | history2    |
|------------------|---------------|--------------|------------|-------------------|---------------|-------------|
| Sample Number    |               | Client Info  |            | KCPA013483        | KC104281      | KC96408     |
| Sample Date      |               | Client Info  |            | 13 Mar 2024       | 31 May 2022   | 30 Nov 2021 |
| Machine Age      | hrs           | Client Info  |            | 27928             | 20834         | 18851       |
| Oil Age          | hrs           | Client Info  |            | 1733              | 2083          | 2765        |
| Oil Changed      |               | Client Info  |            | Not Changd        | Changed       | Not Changd  |
| Sample Status    |               |              |            | ABNORMAL          | ABNORMAL      | ABNORMAL    |
| WEAR METALS      |               | method       | limit/base | current           | history1      | history2    |
| Iron             | ppm           | ASTM D5185m  | >50        | 3                 | 0             | <1          |
| Chromium         | ppm           | ASTM D5185m  |            | <1                | 0             | 0           |
| Nickel           | ppm           | ASTM D5185m  | >3         | 0                 | 0             | 0           |
| Titanium         | ppm           | ASTM D5185m  |            | 0                 | 0             | 0           |
| Silver           | ppm           | ASTM D5185m  | >2         | 0                 | 0             | <1          |
| Aluminum         | ppm           | ASTM D5185m  |            | <1                | 0             | 0           |
| Lead             | ppm           | ASTM D5185m  | >10        | 0                 | 0             | 0           |
| Copper           | ppm           | ASTM D5185m  |            | 4                 | 12            | 13          |
| Tin              | ppm           | ASTM D5185m  | >10        | 0                 | 0             | 0           |
| Antimony         | ppm           | ASTM D5185m  | - 10       |                   |               | 0           |
| Vanadium         | ppm           | ASTM D5185m  |            | 0                 | 0             | 0           |
| Cadmium          | ppm           | ASTM D5185m  |            | 0                 | 0             | 0           |
|                  | ρρπ           |              |            | -                 | -             |             |
| ADDITIVES        |               | method       | limit/base | current           | history1      | history2    |
| Boron            | ppm           | ASTM D5185m  | 0          | 0                 | <1            | 1           |
| Barium           | ppm           | ASTM D5185m  | 90         | 0                 | 0             | 14          |
| Molybdenum       | ppm           | ASTM D5185m  | 0          | 3                 | 0             | 0           |
| Manganese        | ppm           | ASTM D5185m  |            | <1                | 0             | 0           |
| Magnesium        | ppm           | ASTM D5185m  | 100        | 22                | 0             | 9           |
| Calcium          | ppm           | ASTM D5185m  |            | <1                | 0             | 0           |
| Phosphorus       | ppm           | ASTM D5185m  | 0          | 0                 | <1            | 4           |
| Zinc             | ppm           | ASTM D5185m  | 0          | 6                 | 1             | 19          |
| Sulfur           | ppm           | ASTM D5185m  | 23500      | 21967             | 14667         | 15189       |
| CONTAMINANTS     | ;             | method       | limit/base | current           | history1      | history2    |
| Silicon          | ppm           | ASTM D5185m  | >25        | 0                 | 0             | <1          |
| Sodium           | ppm           | ASTM D5185m  |            | 5                 | <1            | 4           |
| Potassium        | ppm           | ASTM D5185m  |            | 0                 | 0             | <1          |
| Water            | %             | ASTM D6304   | >0.05      | 0.009             | 0.005         | 0.009       |
| ppm Water        | ppm           | ASTM D6304   | >500       | 99                | 57.8          | 97.2        |
| FLUID CLEANLIN   | IESS          | method       | limit/base | current           | history1      | history2    |
| Particles >4µm   |               | ASTM D7647   |            | 25625             | 1412          |             |
| Particles >6µm   |               | ASTM D7647   | >1300      | <u> </u>          | 809           |             |
| Particles >14µm  |               | ASTM D7647   | >80        | <u> </u>          | <u> </u>      |             |
| Particles >21µm  |               | ASTM D7647   | >20        | <u> </u>          | <u>    60</u> |             |
| Particles >38µm  |               | ASTM D7647   | >4         | <u> </u>          | 5             |             |
| Particles >71µm  |               | ASTM D7647   | >3         | 2                 | 0             |             |
| Oil Cleanliness  |               | ISO 4406 (c) | >/17/13    | <b>A</b> 22/21/18 | ▲ 18/17/15    |             |
| FLUID DEGRADA    | TION          | method       | limit/base | current           | history1      | history2    |
| Acid Number (AN) | mg KOH/g      | ASTM D8045   | 1.0        | 0.33              | 0.28          | 0.323       |
|                  |               |              |            |                   |               |             |

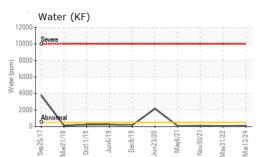
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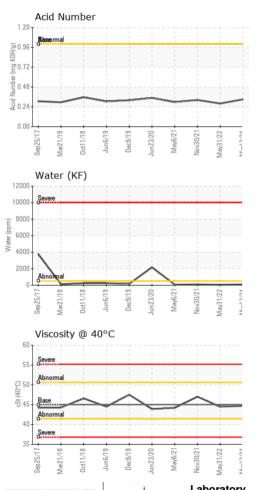
Contact/Location: Service Manager - AMACAT



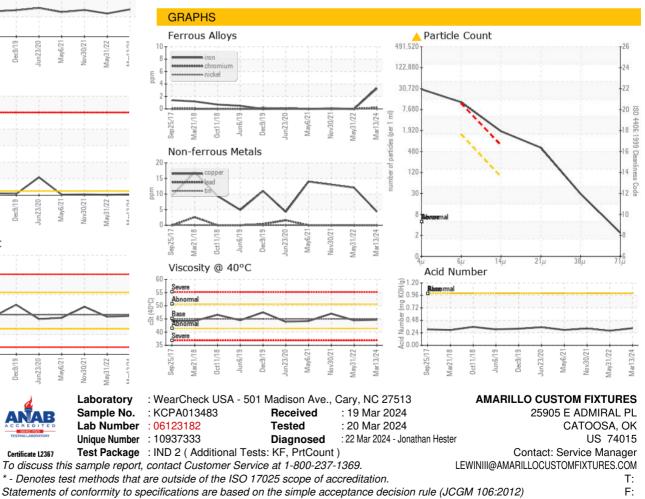
# **OIL ANALYSIS REPORT**







| VISUAL           |        | method    | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual   | NONE       | LIGHT   | NONE     | 🔺 MODER  |
| Sand/Dirt        | scalar | *Visual   | NONE       | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual   | NORML      | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual   | >0.05      | NEG     | NEG      | NEG      |
| Free Water       | scalar | *Visual   |            | NEG     | NEG      | NEG      |
| FLUID PROPERT    | IES    | method    | limit/base | current | history1 | history2 |
| Visc @ 40°C      | cSt    | ASTM D445 | 45         | 44.7    | 44.44    | 47.0     |
| SAMPLE IMAGES    | S      | method    | limit/base | current | history1 | history2 |
| Color            |        |           |            |         |          |          |
| Bottom           |        |           |            |         |          |          |



Contact/Location: Service Manager - AMACAT