

## **OIL ANALYSIS REPORT**

# Sample Rating Trend ISO SAMPLE INFORMATION method limit/base current history1 history2

Machine Id KAESER AIRTOWER 5C 5519315 (S/N 1051) Component

Compressor

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.

| SAMIFLE INFURIN  |          | method       | iimi/base  | current           | nistory i   | nistory2 |
|------------------|----------|--------------|------------|-------------------|-------------|----------|
| Sample Number    |          | Client Info  |            | KCPA015664        | KCP28723    |          |
| Sample Date      |          | Client Info  |            | 11 Mar 2024       | 22 Oct 2020 |          |
| Machine Age      | hrs      | Client Info  |            | 7165              | 4626        |          |
| Oil Age          | hrs      | Client Info  |            | 0                 | 0           |          |
| Oil Changed      |          | Client Info  |            | Changed           | Changed     |          |
| Sample Status    |          |              |            | ABNORMAL          | ABNORMAL    |          |
| WEAR METALS      |          | method       | limit/base | current           | history1    | history2 |
| Iron             | ppm      | ASTM D5185m  | >50        | 0                 | <1          |          |
| Chromium         | ppm      | ASTM D5185m  | >10        | 0                 | 0           |          |
| Nickel           | ppm      | ASTM D5185m  | >3         | 0                 | 0           |          |
| Titanium         | ppm      | ASTM D5185m  | >3         | 0                 | 0           |          |
| Silver           | ppm      | ASTM D5185m  | >2         | 0                 | <1          |          |
| Aluminum         | ppm      | ASTM D5185m  | >10        | 0                 | 0           |          |
| Lead             | ppm      | ASTM D5185m  | >10        | 0                 | 0           |          |
| Copper           | ppm      | ASTM D5185m  | >50        | 22                | 40          |          |
| Tin              | ppm      | ASTM D5185m  | >10        | 0                 | 0           |          |
| Antimony         | ppm      | ASTM D5185m  |            |                   | 0           |          |
| Vanadium         | ppm      | ASTM D5185m  |            | 0                 | 0           |          |
| Cadmium          | ppm      | ASTM D5185m  |            | 0                 | 0           |          |
| ADDITIVES        |          | method       | limit/base | current           | history1    | history2 |
| Boron            | ppm      | ASTM D5185m  | 0          | 0                 | 0           |          |
| Barium           | ppm      | ASTM D5185m  | 90         | 0                 | 0           |          |
| Molybdenum       | ppm      | ASTM D5185m  | 0          | 0                 | 0           |          |
| Manganese        | ppm      | ASTM D5185m  |            | 0                 | 0           |          |
| Magnesium        | ppm      | ASTM D5185m  | 100        | 0                 | <1          |          |
| Calcium          | ppm      | ASTM D5185m  | 0          | 0                 | 0           |          |
| Phosphorus       | ppm      | ASTM D5185m  | 0          | 0                 | 0           |          |
| Zinc             | ppm      | ASTM D5185m  | 0          | 0                 | 6           |          |
| Sulfur           | ppm      | ASTM D5185m  | 23500      | 14908             | 12165       |          |
| CONTAMINANTS     | ;        | method       | limit/base | current           | history1    | history2 |
| Silicon          | ppm      | ASTM D5185m  | >25        | 0                 | <1          |          |
| Sodium           | ppm      | ASTM D5185m  |            | 0                 | 0           |          |
| Potassium        | ppm      | ASTM D5185m  | >20        | 0                 | 0           |          |
| Water            | %        | ASTM D6304   | >0.05      | 0.009             | 0.008       |          |
| ppm Water        | ppm      | ASTM D6304   | >500       | 94                | 83.6        |          |
| FLUID CLEANLIN   | IESS     | method       | limit/base | current           | history1    | history2 |
| Particles >4µm   |          | ASTM D7647   |            | 63715             |             |          |
| Particles >6µm   |          | ASTM D7647   | >1300      | <u> </u>          |             |          |
| Particles >14µm  |          | ASTM D7647   | >80        | <b>A</b> 2743     |             |          |
| Particles >21µm  |          | ASTM D7647   | >20        | <u> </u>          |             |          |
| Particles >38µm  |          | ASTM D7647   | >4         | <mark>/</mark> 90 |             |          |
| Particles >71µm  |          | ASTM D7647   | >3         | <u> </u>          |             |          |
| Oil Cleanliness  |          | ISO 4406 (c) | >/17/13    | <b>A</b> 23/21/19 |             |          |
| FLUID DEGRADA    | TION     | method       | limit/base | current           | history1    | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D8045   | 1.0        | 0.37              | 0.342       |          |
| 10.50) D 1       |          |              |            | 0                 |             |          |

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Contact/Location: Service Manager - FIFAUS



Built for a lifetime."

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|   | Particle Trend  | VISUAL   |   | method  | limit/base  | current       | history1            | history2  |
|---|---|--|---|---|---|---------------|---------------------|---|
| 60k -   | 4μm<br>6μm  | White Metal  | scalar  | *Visual   | NONE  | NONE          | NONE                |   |
| € 50k   | www.launa   | Yellow Metal   | scalar  | *Visual   | NONE  | NONE          | NONE                |   |
| - <u>80</u><br>   |   | Precipitate  | scalar  | *Visual   | NONE  | NONE          | NONE                |   |
| - 등 30k ·   |   | Silt   | scalar  | *Visual   | NONE  | NONE          | NONE                |   |
| -quint 20k -  |   | Debris   | scalar  | *Visual   | NONE  | NONE          | A MODER             |   |
| <sup>1</sup> 10k·   |   | Sand/Dirt  | scalar  | *Visual   | NONE  | NONE          | NONE                |   |
| UK.   | 0ct2/20 -   | Appearance   | scalar  | *Visual   | NORML   | NORML         | NORML               |   |
|   | 0ct22/20<br>Mar11/24  | Odor   | scalar  | *Visual   | NORML   | NORML         | NORML               |   |
|   | Water (KF)  | Emulsified Water   | scalar  | *Visual   | >0.05   | NEG           | NEG                 |   |
| 12000   |   | Free Water   | scalar  | *Visual   |   | NEG           | NEG                 |   |
| 10000   | Severe  | FLUID PROPER   | TIES  | method  | limit/base  | current       | history1            | history2  |
| 0008 Mater (ppm)  |   | Visc @ 40°C  | cSt   | ASTM D445   | 45  | 43.6          | 44.2                |   |
| ₩<br>A000.  |   | SAMPLE IMAGE   | S   | method  | limit/base  | current       | history1            | history2  |
| 2000 ·<br>0 ·   | Oct22/20  | Color  |   |   |   |               |                     | no image  |
| 1.20<br>(DHOX 0.96<br>(DHOX 0.72<br>(DHOX 0.48<br>(DHOX 0.48<br>(DHOX 0.24) | Acid Number   | Bottom   |   |   |   |               |                     | no image  |
| Bu 0.72   |   | GRAPHS   |   |   |   |               |                     |   |
| 2 U.48  |   | Ferrous Alloys   |   |   |   | Particle Cour | ıt                  |   |
| 9 0.24  |   | 10 iron  |   |   | 491,520   | I             |                     | T <sup>26</sup>   |
| 0.00  |   | 8 announce and a second |   |   | 122,880   |               |                     | -24   |
|   | 0622/20   | E 6  |   |   | 00 700  |               |                     |   |
|   | 00<br>**  | 2  |   |   | 30,720  |               |                     | -22   |
|   | Water (KF)  |  |   |   | 7,680   |               |                     | -20 👼   |
| 12000   | Courses   | 0ct22/20   |   |   | Mar11/24.<br>s (per 1 ml)   |               |                     | 12 0 440  |
| 10000   | Severe  | Octi   |   |   | Mart<br>ss (per   | · · · · ·     |                     | 10 6:199  |
| <u>و</u> 8000 ا   |   | Non-ferrous Meta   | ls  |   | Mar11/24<br>086<br>088<br>088   | · ``.         | • \                 | -16 Cle   |
| 4000 Vater (ppm)  |   | 40 copper  |   |   | 4   |               |                     |   |
| ≥ 4000.   |   | 30 - Reserves lead   |   |   | 120   |               | N                   | 120 1300 4406.1999 Cleanliness Code   |
| 2000  | Abnormal  | Ē 20-  |   |   | 30  | Ŧ             |                     | -12 0   |
| 0.  |   | 10-  |   |   | 8   | Berevernal    |                     | 10  |
|   | 0ct22/20  | 0 L  |   |   |   |               |                     |   |
|   | 0 ***   | 0ct22/20   |   |   | Mar11/24  | †             |                     | -8  |
|   | Viscosity @ 40°C  |  |   |   | ₹ 0 <sub>4</sub>  | 60            | 14µ 21µ             | 38µ 71µ   |
| 60-   |   | Viscosity @ 40°C   |   |   |   | Acid Number   |                     | 00µ 11µ   |
| 55  |   | 55 - Severe  |   |   | ()<br>()<br>()<br>()<br>()<br>()<br>()<br>()<br>()<br>()<br>()<br>()<br>()<br>( | Basermal      |                     |   |
| ç 50·   | Abnormal  |  |   |   | Q 0.96  |               |                     |   |
| (0-0 <del>1</del> )<br>153 45   | Base  | 0€<br>to 45  |   | ****  | 드 U./2<br>편 0.48  |               |                     |   |
|   | Abnormal  | 40   |   |   | 40.48<br>M 0.24<br>P 0.24   |               |                     |   |
| 40-   | Severe  | 35   |   |   | 0.00 V 0.00   |               |                     |   |
| 35.   |   | 0ct22/20   |   |   | 11/24   | 0ct22/20      |                     | 11/24   |
|   | 0ct22/20  | Oct  |   |   | Mar1  | 00            |                     | Mar11   |
|   | To discuss this sample report,<br>• <b>Part State</b> + Denotes test methods that | : 10938464<br>: IND 2 ( Additional Tes<br>, contact Customer Serv<br>are outside of the ISO 1  | Rece<br>Teste<br>Diagr<br>sts: KF, F<br>vice at 1-8 | ived : 20<br>id : 21<br>nosed : 23<br>PrtCount )<br>800-237-1369<br>ope of accred | ) Mar 2024<br>I Mar 2024<br>Mar 2024 - Don<br>9.<br>Iitation.                   | -             | 1210<br>Contact: Se | IERATION INC<br>D1 MOORE RD<br>AUSTIN, TX<br>US 78719<br>ervice Manager<br>T: |
|   | Statements of conformity to sp  | pecifications are based o  | on the sin  | nple accepta  | nce decision i  | rule (JCGM 10 | 0:2012)             | F:  |

Contact/Location: Service Manager - FIFAUS