

# **OIL ANALYSIS REPORT**

Sample Rating Trend

Machine Id

# 5619384 (S/N 1009)

Component Compressor Fluid 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 acceptable for the time in service.

| SAMPLE INFORMATION |          | method          | limit/base    | current       | history1    | history2 |
|--------------------|----------|-----------------|---------------|---------------|-------------|----------|
| Sample Number      |          | Client Info     |               | KCPA010971    | KCP52458    |          |
| Sample Date        |          | Client Info     |               | 27 Dec 2023   | 13 Feb 2023 |          |
| Machine Age        | hrs      | Client Info     |               | 6955          | 2377        |          |
| Oil Age            | hrs      | Client Info     |               | 0             | 2377        |          |
| Oil Changed        |          | Client Info     |               | N/A           | Not Changd  |          |
| Sample Status      |          |                 |               | ABNORMAL      | ABNORMAL    |          |
| WEAR METALS        |          | method          | limit/base    | current       | history1    | history2 |
| Iron               | ppm      | ASTM D5185m     | >50           | 2             | 1           |          |
| Chromium           | ppm      | ASTM D5185m     | >10           | -<br><1       | 0           |          |
| Nickel             | nnm      | ASTM D5185m     | >3            | <1<br><1      | 0           |          |
| Titanium           | nnm      | ASTM D5185m     | >3            | <1            | 0           |          |
| Silver             | nnm      | ASTM D5185m     | >2            | 0             | 0           |          |
| Aluminum           | nnm      | ASTM D5185m     | <u>&gt;10</u> | 1             | 0           |          |
| Lead               | nnm      | ASTM D5185m     | >10           | 1             | 0           |          |
| Coppor             | ppm      | AGTM D5105m     | >50           | 20            | 22          |          |
| Tin                | ppm      | ASTM D5185m     | >10           | 1             | 0           |          |
| Vanadium           | ppm      | AGTM D5105m     | >10           | -1            | 0           |          |
| Cadmium            | ppill    | ASTM D5105III   |               | <1            | 0           |          |
| Gaumum             | ррпі     | ASTIVI DOTODIII |               | <1            | 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             | 1             | 0           |          |
| Manganese          | ppm      | ASTM D5185m     |               | <1            | <1          |          |
| Magnesium          | ppm      | ASTM D5185m     | 100           | 2             | 29          |          |
| Calcium            | ppm      | ASTM D5185m     | 0             | 4             | 1           |          |
| Phosphorus         | ppm      | ASTM D5185m     | 0             | 5             | 21          |          |
| Zinc               | ppm      | ASTM D5185m     | 0             | 5             | 52          |          |
| Sulfur             | ppm      | ASTM D5185m     | 23500         | 14604         | 18279       |          |
| CONTAMINANTS       |          | method          | limit/base    | current       | history1    | history2 |
| Silicon            | ppm      | ASTM D5185m     | >25           | 14            | <b>A</b> 32 |          |
| Sodium             | ppm      | ASTM D5185m     |               | <1            | 15          |          |
| Potassium          | ppm      | ASTM D5185m     | >20           | 1             | 3           |          |
| Water              | %        | ASTM D6304      | >0.05         | 0.009         | 0.011       |          |
| ppm Water          | ppm      | ASTM D6304      | >500          | 95            | 118.9       |          |
| FLUID CLEANLIN     | IESS     | method          | limit/base    | current       | history1    | history2 |
| Particles >4µm     |          | ASTM D7647      |               | 277599        |             |          |
| Particles >6µm     |          | ASTM D7647      | >1300         | 🔺 105999      |             |          |
| Particles >14µm    |          | ASTM D7647      | >80           | <b>A</b> 3256 |             |          |
| Particles >21µm    |          | ASTM D7647      | >20           | <u> </u>      |             |          |
| Particles >38µm    |          | ASTM D7647      | >4            | <b>1</b> 3    |             |          |
| Particles >71µm    |          | ASTM D7647      | >3            | 0             |             |          |
| Oil Cleanliness    |          | ISO 4406 (c)    | >17/13        | <b>4</b> /19  |             |          |
| FLUID DEGRADA      | TION     | method          | limit/base    | current       | history1    | history2 |
| Acid Number (AN)   | mg KOH/g | ASTM D8045      | 1.0           | 0.28          | 0.586       |          |



Built for a lifetime.

#### 🔺 Particle Trend 300k €<sup>250k</sup> Gμm \_14µm es (1 200 Te 150 100 504 0 Dec27/23 -Feb 1 Water (KF) 12000 Sev 10000 800





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| 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  | LIGHT              | NONE           |   |
| Debris  | scalar                                 | *Visual  | NONE  | NONE               | 🔺 MODER        |   |
| Sand/Dirt   | scalar                                 | *Visual  | NONE  | NONE               | NONE           |   |
| Appearance  | scalar                                 | *Visual  | NORML   | NORML              | NORML          |   |
| Odor  | scalar                                 | *Visual  | NORML   | NORML              | NORML          |   |
| Emulsified Water                                      | r scalar                               | *Visual  | >0.05   | NEG                | NEG            |   |
| Free Water  | scalar                                 | *Visual  |   | NEG                | NEG            |   |
| FLUID PROPE   | ERTIES                                 | method   | limit/base  | current            | history1       | history2  |
| Visc @ 40°C   | cSt                                    | ASTM D445  | 45  | 44.5               | 46.3           |   |
| SAMPLE IMA  | GES                                    | method   | limit/base  | current            | history1       | history2  |
| Color   |  |  |   |                    | -              | no image  |
| Bottom  |  |  |   |                    |                | no image  |
| GRAPHS  |  |  |   |                    |                |   |
| Ferrous Alloys  |  |  |   | Particle Cou       | nt             |   |
| iron  |  |  | 491,520   | K                  |                | 1 <sup>26</sup>                                   |
| 6   |  |  | 122,880   |                    |                | -24   |
| 4   |  |  | 30.720  |                    |                | -22   |
| 2-  |  |  |   |                    | \              |   |
| 0   |  |  | 7,680<br>   | )-                 |                | -20 8   |
| sh13/2  |  |  | 1,920 July 1,920  | )-                 |                | -18 6   |
| III<br>Non forrous M                                  | otolo                                  |  | icles (   |                    |                | 1999  |
| <sup>25</sup> T                                       | etais                                  |  | of barr   |                    |                | Cleanli   |
| 20 - copper   |  |  | ja 120  | -                  | 1              | -14 mess (  |
| 15 - tin  |  |  | 2 30  | -                  | 1              | 12 ode  |
| 10  |  |  |   |                    |                |   |
| 5   |  |  |   | Bioresemal         |                |   |
| 3/23  |  |  | . 27/23   | 2 -                |                |   |
| Feb1  |  |  | ) Decí  | 4                  | 14. 21.        | 384 716   |
| Viscosity @ 40  | °C                                     |  |   | Acid Numbe         | r ziµ          | <i>σομ Γ</i> ιμ                                   |
| 55 Severe   |  |  | ( <sup>B</sup> <sup>1.20</sup>                            | Basermal           |                |   |
| Abnormal  |  |  | Q 0.96  |                    |                |   |
| 45 Base   |  |  | 는 U.72<br>  |                    |                |   |
| 40 - Smoon  |  |  | N 0.24  |                    |                |   |
| 35  |  |  | 0.00 V  |                    |                |   |
| b13/23  |  |  | c27/23  | 613/25             |                | :27/23  |
| Fei   |  |  | Dec   | 臣                  |                | Dec   |
| WearCheck USA -<br>KCPA010971<br>06146596<br>10976674 | - 501 Madisc<br>Rece<br>Teste<br>Diaor | on Ave., Cary<br>ived : 1<br>id : 12<br>nosed : 15 | v, NC 27513<br>1 Apr 2024<br>2 Apr 2024<br>Apr 2024 - Ana | 754<br>ela Borella | 5 LOWETA INDUS | SEMPERIT<br>STRAIL PKWY<br>NEWNAN, GA<br>US 30265 |
| : IND 2 ( Additional                                  | Tests: KF, F                           | rtCount)   |   |                    | Contact        | : JIM VESELY                                      |

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)

Certificate L2367

Contact/Location: JIM VESELY - SEMNEW

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