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# OIL ANALYSIS REPORT

|                 |                 |
|-----------------|-----------------|
| WEAR            | <b>NORMAL</b>   |
| CONTAMINATION   | <b>ABNORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b>   |

Machine Id  
**KAESER AS 25T 2680820 (S/N 1162)**

Component  
**Compressor**

Fluid  
**KAESER SIGMA (OEM) M-460 (--- QTS)**

## 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. We were unable to perform a particle count due to a high concentration of particles present in this sample.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>KCPA003857</b>  | KCP27007    | KCP23765    |
| Sample Date    |     | Client Info |           | <b>23 Aug 2023</b> | 25 Feb 2021 | 20 Nov 2019 |
| Machine Age    | hrs | Client Info |           | <b>44134</b>       | 37286       | 33894       |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 3392        | 2654        |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 3392        | 2654        |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | ABNORMAL    | NORMAL      |

## WEAR

All component wear rates are normal.

|              |        |             |      |              |      |       |
|--------------|--------|-------------|------|--------------|------|-------|
| Iron         | ppm    | ASTM D5185m | >50  | <b>18</b>    | 17   | 31    |
| Chromium     | ppm    | ASTM D5185m | >10  | <b>0</b>     | 0    | <1    |
| Nickel       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 2    | 0     |
| Titanium     | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0     |
| Silver       | ppm    | ASTM D5185m | >2   | <b>0</b>     | 0    | <1    |
| Aluminum     | ppm    | ASTM D5185m | >10  | <b>&lt;1</b> | 1    | <1    |
| Lead         | ppm    | ASTM D5185m | >10  | <b>0</b>     | 0    | 0     |
| Copper       | ppm    | ASTM D5185m | >50  | <b>9</b>     | 8    | 6     |
| Tin          | ppm    | ASTM D5185m | >10  | <b>0</b>     | 0    | 0     |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0     |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | LIGHT |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE  |

## CONTAMINATION

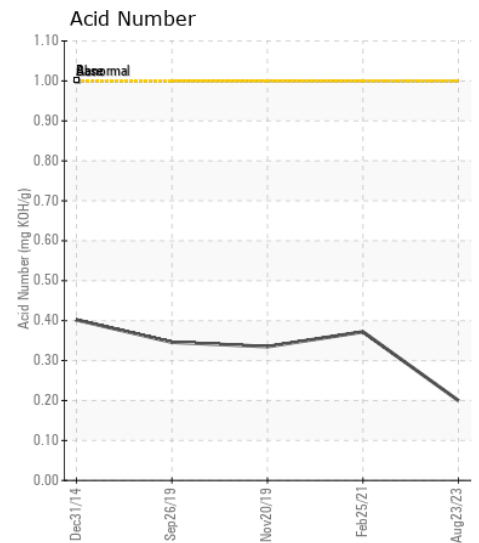
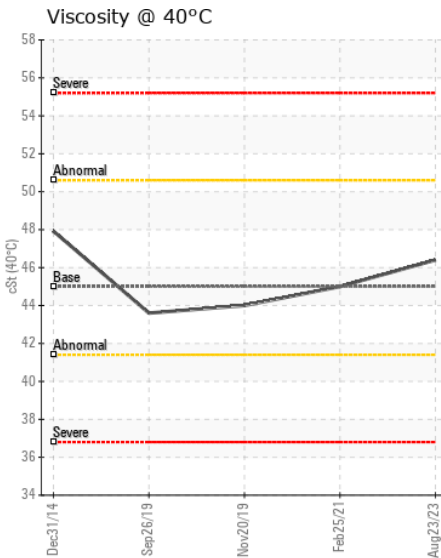
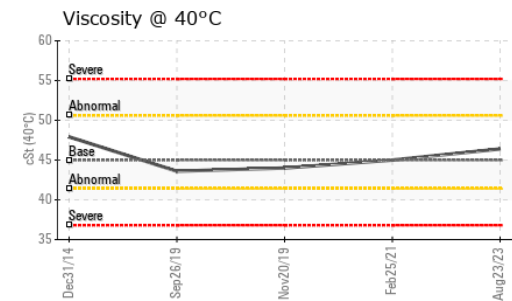
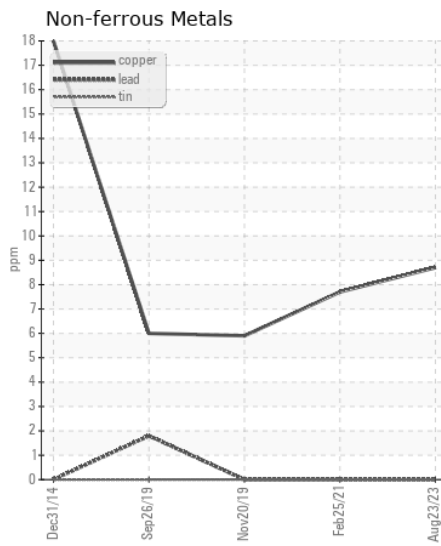
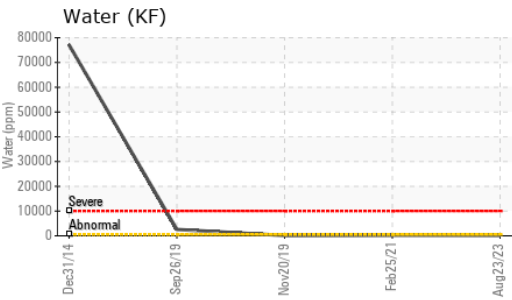
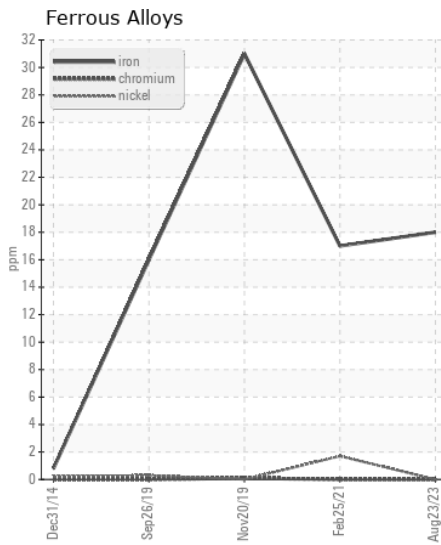
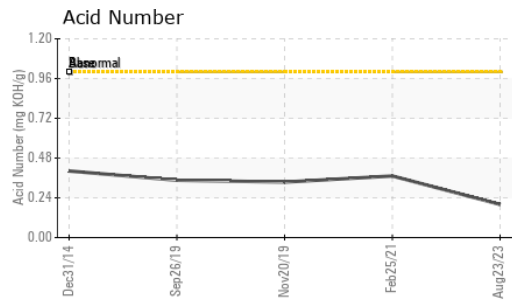
Moderate concentration of visible dirt/debris present in the oil.

|                  |        |              |           |                |         |       |
|------------------|--------|--------------|-----------|----------------|---------|-------|
| Silicon          | ppm    | ASTM D5185m  | >25       | <b>2</b>       | 4       | 2     |
| Potassium        | ppm    | ASTM D5185m  | >20       | <b>1</b>       | 5       | 2     |
| Water            | %      | ASTM D6304   | >0.05     | <b>0.010</b>   | 0.021   | 0.012 |
| ppm Water        | ppm    | ASTM D6304   | >500      | <b>104.9</b>   | 216.8   | 126.4 |
| Particles >4µm   |        | ASTM D7647   |           | <b>---</b>     | ---     | 564   |
| Particles >6µm   |        | ASTM D7647   | >1300     | <b>---</b>     | ---     | 307   |
| Particles >14µm  |        | ASTM D7647   | >80       | <b>---</b>     | ---     | 52    |
| Particles >21µm  |        | ASTM D7647   | >20       | <b>---</b>     | ---     | 17    |
| Particles >38µm  |        | ASTM D7647   | >4        | <b>---</b>     | ---     | 2     |
| Particles >71µm  |        | ASTM D7647   | >3        | <b>---</b>     | ---     | 0     |
| Oil Cleanliness  |        | ISO 4406 (c) | ---/17/13 | <b>---</b>     | ---     | 15/13 |
| Silt             | scalar | *Visual      | NONE      | <b>NONE</b>    | NONE    | NONE  |
| Debris           | scalar | *Visual      | NONE      | <b>▲ MODER</b> | ▲ MODER | LIGHT |
| Sand/Dirt        | scalar | *Visual      | NONE      | <b>NONE</b>    | NONE    | NONE  |
| Appearance       | scalar | *Visual      | NORML     | <b>NORML</b>   | NORML   | NORML |
| Odor             | scalar | *Visual      | NORML     | <b>NORML</b>   | NORML   | NORML |
| Emulsified Water | scalar | *Visual      | >0.05     | <b>NEG</b>     | NEG     | NEG   |

## FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

|                  |          |             |       |              |       |       |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Sodium           | ppm      | ASTM D5185m |       | <b>2</b>     | 15    | 13    |
| Boron            | ppm      | ASTM D5185m | 0     | <b>0</b>     | <1    | 0     |
| Barium           | ppm      | ASTM D5185m | 90    | <b>&lt;1</b> | 0     | <1    |
| Molybdenum       | ppm      | ASTM D5185m | 0     | <b>0</b>     | 2     | 0     |
| Manganese        | ppm      | ASTM D5185m |       | <b>0</b>     | <1    | <1    |
| Magnesium        | ppm      | ASTM D5185m | 100   | <b>9</b>     | 50    | 44    |
| Calcium          | ppm      | ASTM D5185m | 0     | <b>0</b>     | 1     | <1    |
| Phosphorus       | ppm      | ASTM D5185m | 0     | <b>53</b>    | 20    | 11    |
| Zinc             | ppm      | ASTM D5185m | 0     | <b>27</b>    | 25    | 2     |
| Sulfur           | ppm      | ASTM D5185m | 23500 | <b>5218</b>  | 12702 | 17107 |
| Acid Number (AN) | mg KOH/g | ASTM D8045  | 1.0   | <b>0.20</b>  | 0.372 | 0.335 |
| Visc @ 40°C      | cSt      | ASTM D445   | 45    | <b>46.4</b>  | 45.0  | 44.0  |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCPA003857 **Received** : 30 Aug 2023  
**Lab Number** : 05938315 **Diagnosed** : 31 Aug 2023  
**Unique Number** : 10628927 **Diagnostician** : Doug Bogart  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**CASTORENA MARBLE**  
 1934 E LINCOLN AVE  
 FORT COLLINS, CO  
 US 80524  
 Contact:

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)

T:  
F: