KAESER COMPRESSORS
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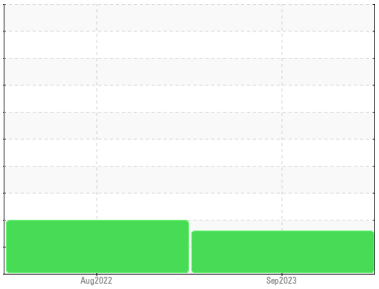
# OIL ANALYSIS REPORT

Sample Rating Trend




**WEAR**

Machine Id
## KAESER AS 20 6015903 (S/N 1238)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) FG-460 (--- QTS)**

## 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**
The aluminum level is abnormal. All other component wear rates are normal.

**▲ Contamination**
There is a high amount of silt (particulates < 14 microns in size) 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 | | **KCP40070D** | KCP48296 | --- |
| Sample Date | | Client Info | | **13 Sep 2023** | 21 Aug 2022 | --- |
| Machine Age | hrs | Client Info | | **18563** | 17254 | --- |
| Oil Age | hrs | Client Info | | **0** | 4000 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | --- |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **8** | 2 | --- |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | --- |
| Nickel | ppm | ASTM D5185m | >3 | **0** | 0 | --- |
| Titanium | ppm | ASTM D5185m | >3 | **<1** | 0 | --- |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >10 | ▲ **14** | 4 | --- |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | --- |
| Copper | ppm | ASTM D5185m | >50 | **5** | 2 | --- |
| Tin | ppm | ASTM D5185m | >10 | **0** | <1 | --- |
| 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 | --- |
| Barium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | | **0** | 0 | --- |
| Manganese | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Magnesium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Calcium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Phosphorus | ppm | ASTM D5185m | 500 | **165** | 117 | --- |
| Zinc | ppm | ASTM D5185m | | **223** | 50 | --- |
| Sulfur | ppm | ASTM D5185m | | **1388** | 1519 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **0** | 0 | --- |
| Sodium | ppm | ASTM D5185m | | **12** | <1 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | --- |
| Water | % | ASTM D6304 | >0.05 | **0.012** | 0.003 | --- |
| ppm Water | ppm | ASTM D6304 | >500 | **130** | 38.9 | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **54053** | 27508 | --- |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **3636** | ▲ 11949 | --- |
| Particles >14µm | | ASTM D7647 | >80 | **36** | ▲ 1300 | --- |
| Particles >21µm | | ASTM D7647 | >20 | **9** | ▲ 222 | --- |
| Particles >38µm | | ASTM D7647 | >4 | **0** | ▲ 10 | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **23/19/12** | ▲ 22/21/17 | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.5 | **0.48** | 0.40 | --- |

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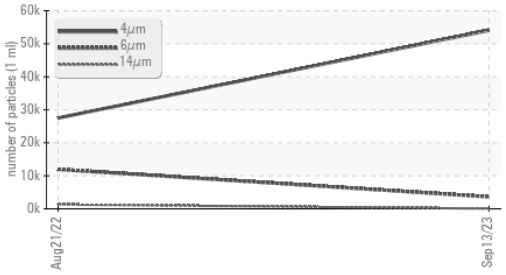
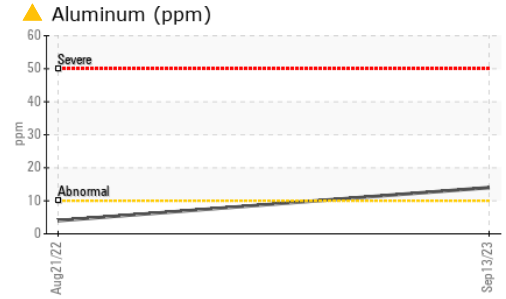
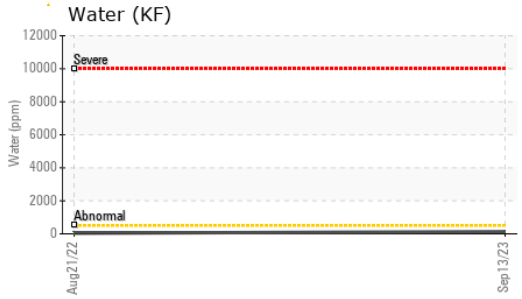
Particle Trend



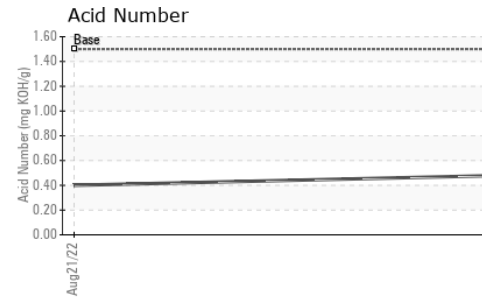

Aluminum (ppm)



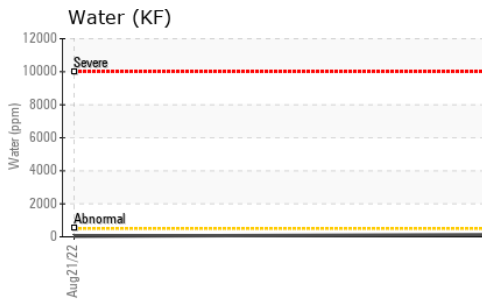

Water (KF)




Acid Number

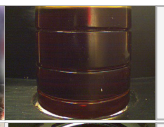
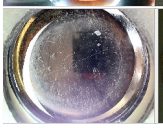
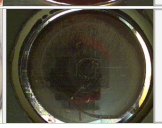



Water (KF)



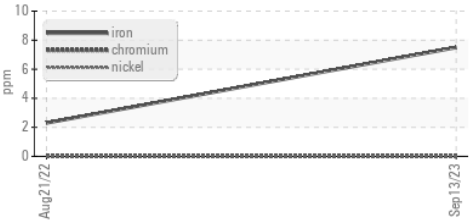

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | 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 | **48.2** | 46.9 | --- |

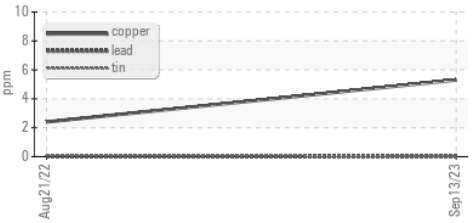
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |

## GRAPHS

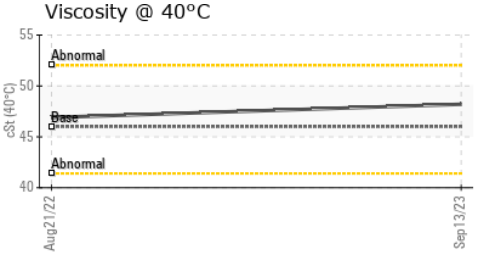
Ferrous Alloys



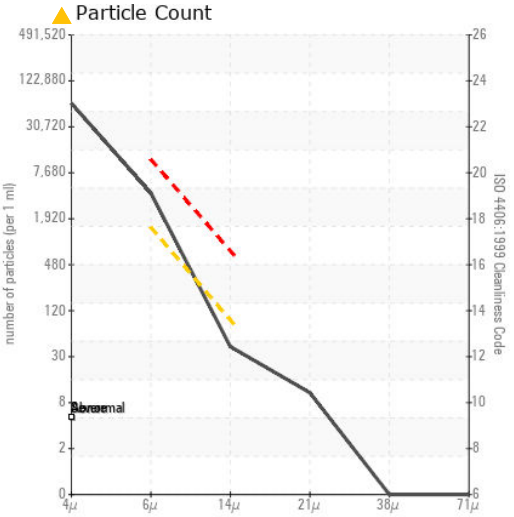

Non-ferrous Metals



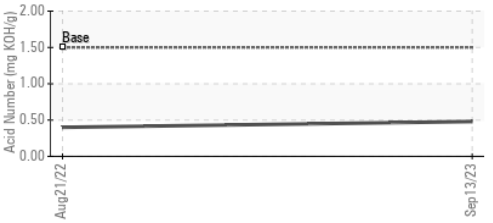

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCP40070D **Recieved** : 30 Jan 2024
**Lab Number** : 06073884 **Diagnosed** : 31 Jan 2024
**Unique Number** : 10855975 **Diagnostician** : Don Baldridge
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

*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)*

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