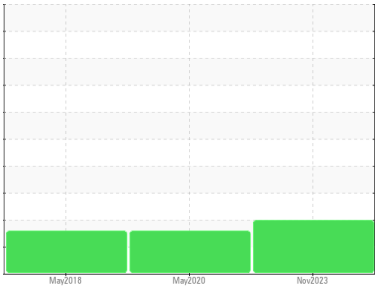
KAESER COMPRESSORS
Built for a lifetime.

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## KAESER SK 26 1423148 (S/N 026703)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- QTS)**

## DIAGNOSIS

**Recommendation**
No corrective action is recommended at this time. 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 INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **KCPA009143** | KCP23359 | KCP09717 |
| Sample Date | | Client Info | | **14 Nov 2023** | 21 May 2020 | 14 May 2018 |
| Machine Age | hrs | Client Info | | **32508** | 31803 | 31419 |
| Oil Age | hrs | Client Info | | **0** | 2000 | 500 |
| Oil Changed | | Client Info | | **N/A** | Changed | Changed |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **0** | <1 | <1 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >10 | **0** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **1** | 1 | 2 |
| Tin | ppm | ASTM D5185m | >10 | **0** | <1 | 0 |
| Antimony | ppm | ASTM D5185m | | **---** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **0** | <1 | 0 |
| Barium | ppm | ASTM D5185m | 90 | **0** | 3 | 2 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | <1 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 100 | **60** | 79 | 70 |
| Calcium | ppm | ASTM D5185m | 0 | **0** | <1 | <1 |
| Phosphorus | ppm | ASTM D5185m | 0 | **0** | 2 | 5 |
| Zinc | ppm | ASTM D5185m | 0 | **13** | 25 | 30 |
| Sulfur | ppm | ASTM D5185m | 23500 | **18616** | 20443 | 12471 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **2** | 2 | <1 |
| Sodium | ppm | ASTM D5185m | | **25** | 32 | 27 |
| Potassium | ppm | ASTM D5185m | >20 | **1** | 4 | 4 |
| Water | % | ASTM D6304 | >0.05 | **0.012** | 0.026 | 0.025 |
| ppm Water | ppm | ASTM D6304 | >500 | **128** | 263.4 | 250 |

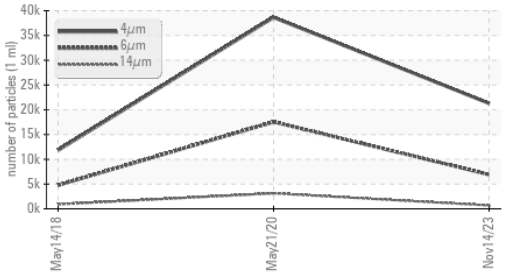
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **21282** | 38646 | 11809 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **6904** | ▲ 17554 | ▲ 4764 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **684** | ▲ 3134 | ▲ 912 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **191** | ▲ 937 | ▲ 358 |
| Particles >38µm | | ASTM D7647 | >4 | ▲ **6** | ▲ 24 | ▲ 40 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 4 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **22/20/17** | ▲ 21/19 | ▲ 19/17 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.17** | 0.347 | 0.359 |

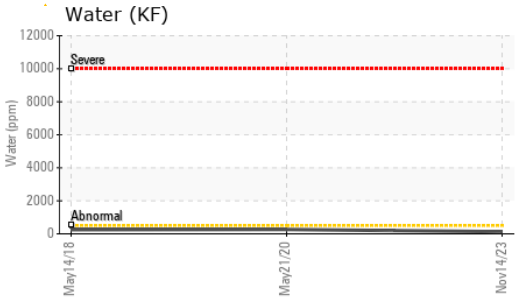
KAESER COMPRESSORS
Built for a lifetime.

# OIL ANALYSIS REPORT

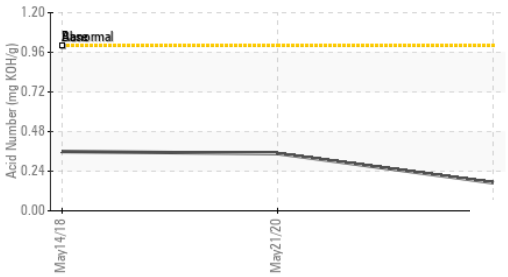
Particle Trend



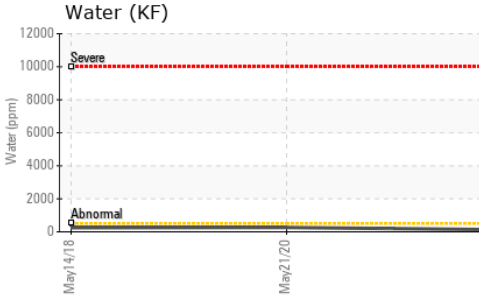

Water (KF)



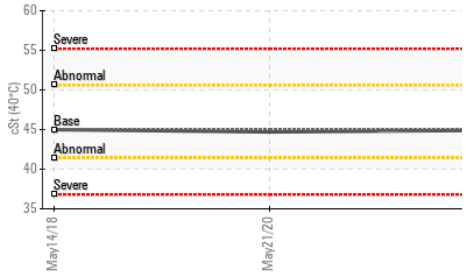

Acid Number




Water (KF)

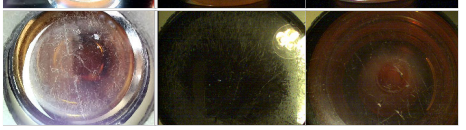



Viscosity @ 40°C



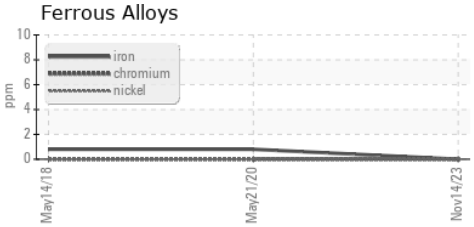

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | LIGHT | NONE |
| 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 PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 45 | **44.9** | 44.7 | 44.99 |

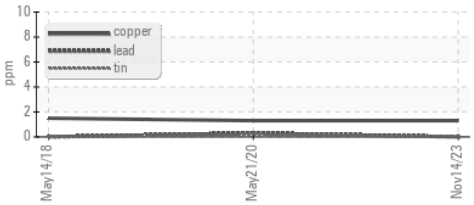
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

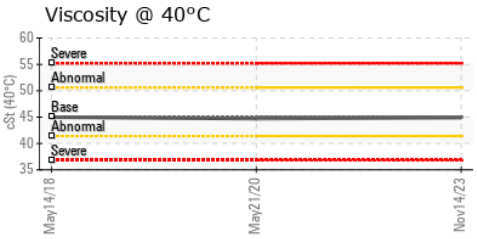
Ferrous Alloys



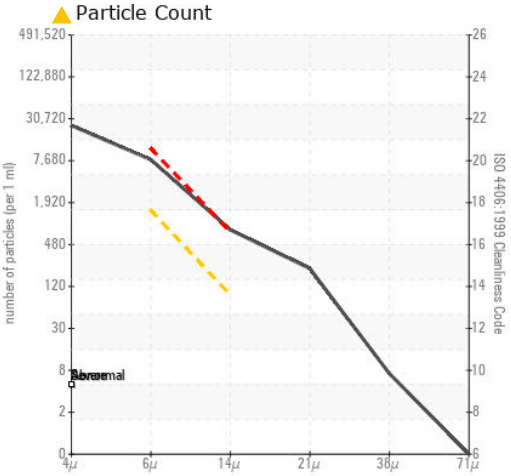

Non-ferrous Metals



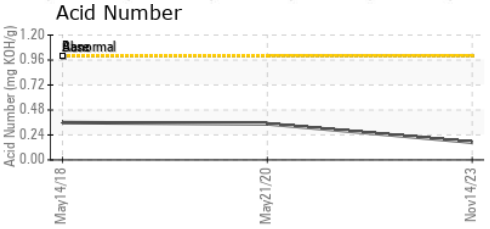

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA009143 **Recieved** : 30 Jan 2024
**Lab Number** : 06073913 **Diagnosed** : 31 Jan 2024
**Unique Number** : 10856004 **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)*

**EAGLE FUEL CELLS**
853 ADAMS RD
EAGLE RIVER, WI
US 54521
Contact: JIM
JIM@EMCCUSTOMSHOP.COM
T:
F: