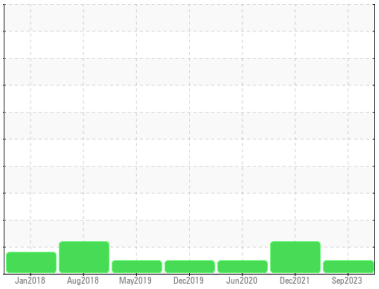
KAESER COMPRESSORS
Built for a lifetime.

# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## KAESER BSD 50 4590172 (S/N 1281)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) S-460 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal.

**Contamination**
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

**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 | | **KCPA004169** | KCP43527 | KCP10777 |
| Sample Date | | Client Info | | **19 Sep 2023** | 02 Dec 2021 | 30 Jun 2020 |
| Machine Age | hrs | Client Info | | **27769** | 22015 | 18427 |
| Oil Age | hrs | Client Info | | **0** | 2414 | 4206 |
| Oil Changed | | Client Info | | **N/A** | Not Changd | Changed |
| Sample Status | | | | **NORMAL** | ABNORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **<1** | 0 | <1 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >3 | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **1** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 2 |
| Copper | ppm | ASTM D5185m | >50 | **19** | 9 | 6 |
| Tin | ppm | ASTM D5185m | >10 | **0** | 0 | 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 | 0 |
| Barium | ppm | ASTM D5185m | 90 | **0** | 0 | 21 |
| Molybdenum | ppm | ASTM D5185m | | **0** | 0 | 3 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 90 | **23** | 52 | 63 |
| Calcium | ppm | ASTM D5185m | 2 | **1** | 0 | 2 |
| Phosphorus | ppm | ASTM D5185m | | **2** | 0 | 0 |
| Zinc | ppm | ASTM D5185m | | **78** | 9 | 17 |
| Sulfur | ppm | ASTM D5185m | | **19584** | 18590 | 17038 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **<1** | 0 | <1 |
| Sodium | ppm | ASTM D5185m | | **11** | 19 | 26 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 2 | 1 |
| Water | % | ASTM D6304 | >0.05 | **0.022** | 0.020 | 0.026 |
| ppm Water | ppm | ASTM D6304 | >500 | **223.0** | 204.7 | 269.4 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **879** | 13046 | 3632 |
| Particles >6µm | | ASTM D7647 | >1300 | **278** | ▲ 3077 | 983 |
| Particles >14µm | | ASTM D7647 | >80 | **26** | ▲ 175 | 60 |
| Particles >21µm | | ASTM D7647 | >20 | **10** | ▲ 52 | 15 |
| Particles >38µm | | ASTM D7647 | >4 | **1** | 3 | 4 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | **17/15/12** | ▲ 19/15 | 17/13 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | **0.38** | 0.456 | 0.368 |

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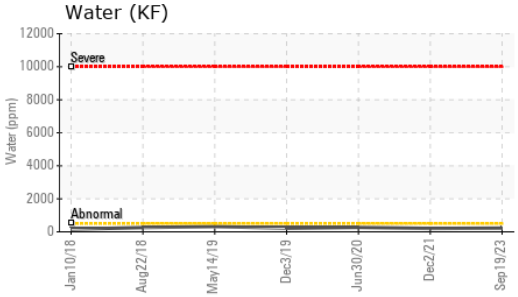
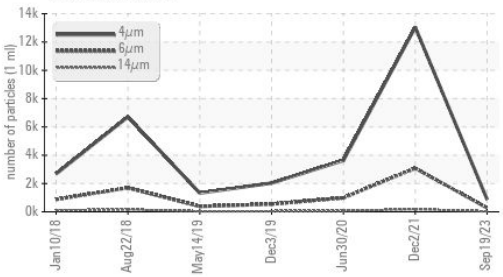
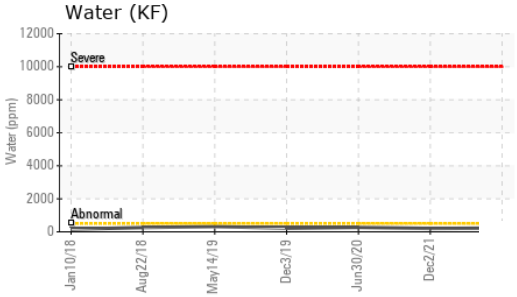
Water (KF)



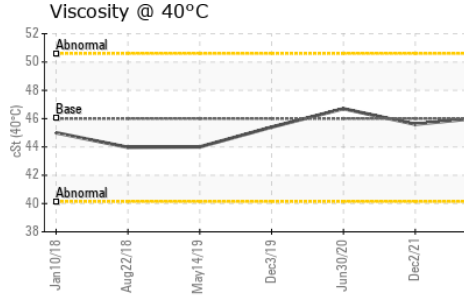

Particle Trend



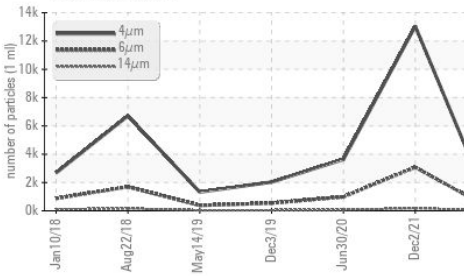

Water (KF)




Viscosity @ 40°C

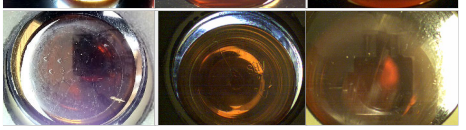



Particle Trend



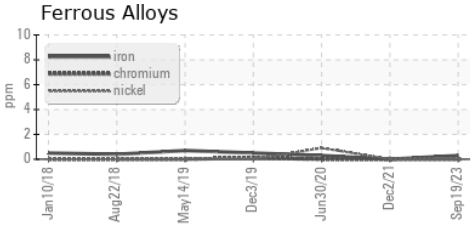

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | 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 | 46 | **46.1** | 45.6 | 46.7 |

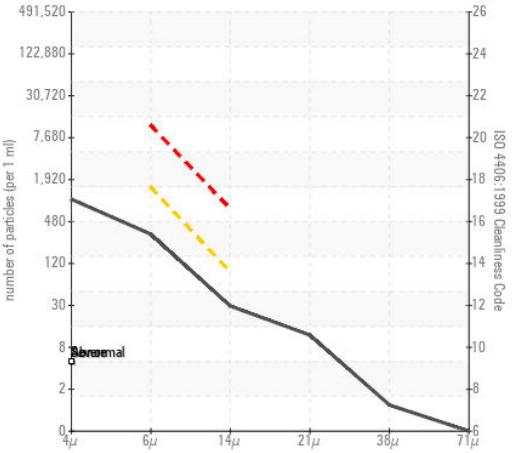
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

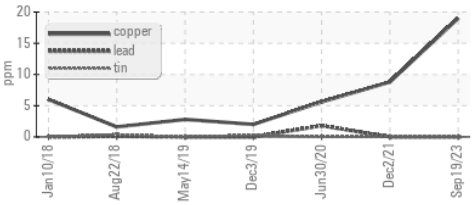
Ferrous Alloys



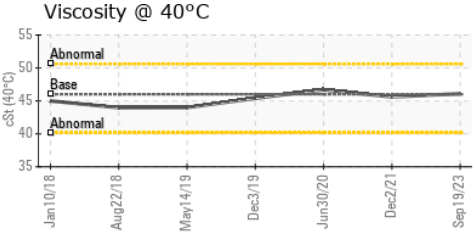

Particle Count



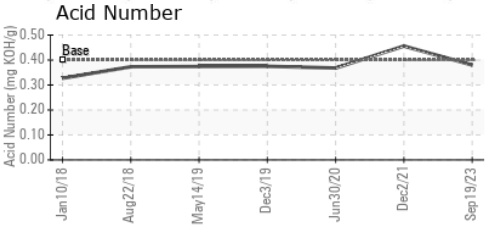

Non-ferrous Metals




Viscosity @ 40°C




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA004169 **Received** : 02 Oct 2023
**Lab Number** : 05967021 **Diagnosed** : 04 Oct 2023
**Unique Number** : 10673572 **Diagnostician** : Jonathan Hester
**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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