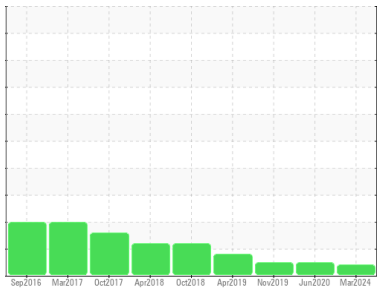
KAESER COMPRESSORS
Built for a lifetime.

# OIL ANALYSIS REPORT

Sample Rating Trend




VISCOSITY

Machine Id
## KAESER BSD 50 5372072 (S/N 1403)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## DIAGNOSIS

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

**Fluid Condition**
The oil viscosity is higher than normal. The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **KCPA016917** | KCP24619 | KCP21663 |
| Sample Date | | Client Info | | **21 Mar 2024** | 26 Jun 2020 | 01 Nov 2019 |
| Machine Age | hrs | Client Info | | **40756** | 14722 | 12826 |
| Oil Age | hrs | Client Info | | **26034** | 2000 | 4000 |
| Oil Changed | | Client Info | | **Changed** | Not Changd | Changed |
| Sample Status | | | | **ATTENTION** | NORMAL | NORMAL |

| 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** | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >10 | **0** | 0 | 1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **3** | 2 | 8 |
| Tin | ppm | ASTM D5185m | >10 | **0** | <1 | <1 |
| 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 | 0 |
| Barium | ppm | ASTM D5185m | 90 | **<1** | 21 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 100 | **<1** | 57 | 25 |
| Calcium | ppm | ASTM D5185m | 0 | **0** | 8 | 0 |
| Phosphorus | ppm | ASTM D5185m | 0 | **0** | 14 | 3 |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 8 | 57 |
| Sulfur | ppm | ASTM D5185m | 23500 | **15053** | 18641 | 18615 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **0** | 2 | <1 |
| Sodium | ppm | ASTM D5185m | | **0** | 11 | 10 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 3 | 2 |
| Water | % | ASTM D6304 | >0.05 | **0.005** | 0.028 | 0.011 |
| ppm Water | ppm | ASTM D6304 | >500 | **56** | 287.0 | 117.8 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **1667** | 1222 | 581 |
| Particles >6µm | | ASTM D7647 | >1300 | **486** | 372 | 83 |
| Particles >14µm | | ASTM D7647 | >80 | **46** | 37 | 16 |
| Particles >21µm | | ASTM D7647 | >20 | **18** | 12 | 13 |
| Particles >38µm | | ASTM D7647 | >4 | **2** | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | **18/16/13** | 16/12 | 14/11 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.56** | 0.430 | 0.389 |

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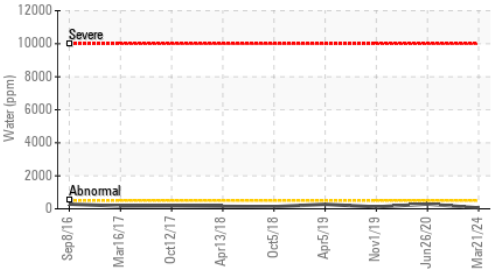
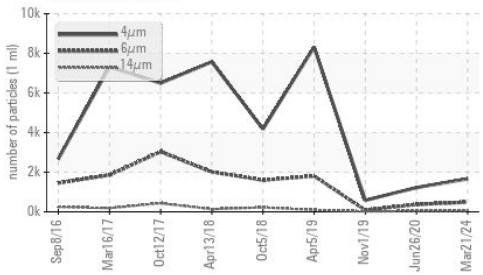
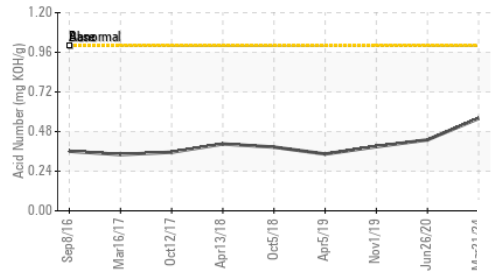
Water (KF)



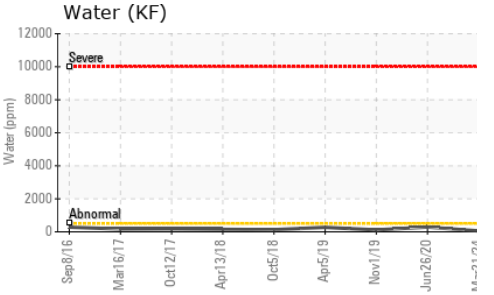

Particle Trend



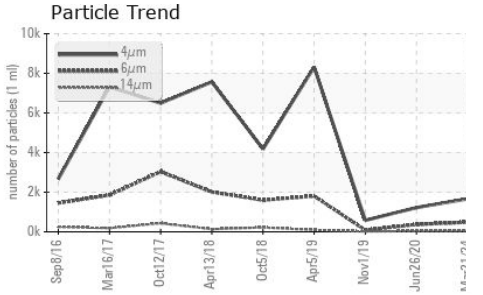

Acid Number




Water (KF)

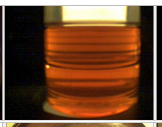



Particle Trend



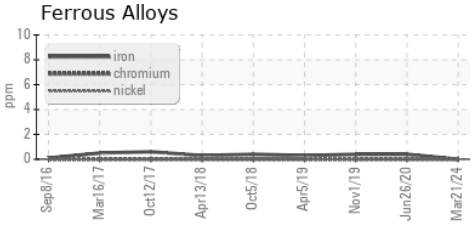

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | 45 | **55.1** | 46.8 | 47.6 |

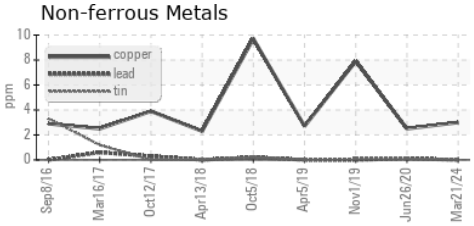
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  |  |
| Bottom | | |  |  |  |

## GRAPHS

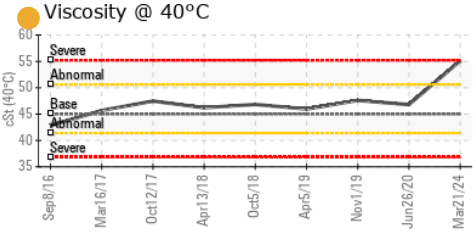
Ferrous Alloys



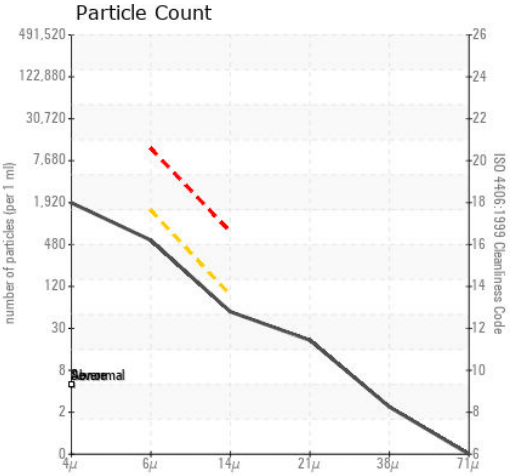

Non-ferrous Metals



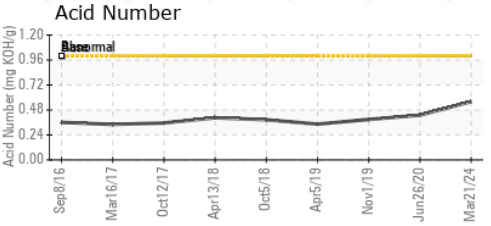

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA016917 **Received** : 11 Apr 2024
**Lab Number** : 06145892 **Tested** : 12 Apr 2024
**Unique Number** : 10975970 **Diagnosed** : 15 Apr 2024 - 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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