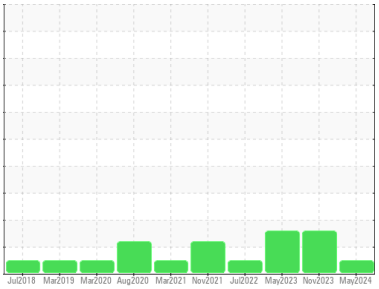
KAESER COMPRESSORS
Built for a lifetime.

# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## KAESER BSD 60T 6090053 (S/N 1158)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-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 | | **KCPA014459** | KCPA011819 | KCP55458 |
| Sample Date | | Client Info | | **13 May 2024** | 27 Nov 2023 | 11 May 2023 |
| Machine Age | hrs | Client Info | | **28970** | 26973 | 24614 |
| Oil Age | hrs | Client Info | | **1998** | 0 | 3000 |
| Oil Changed | | Client Info | | **Changed** | N/A | Changed |
| Sample Status | | | | **NORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **0** | 0 | 0 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >3 | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >3 | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **<1** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **2** | <1 | 1 |
| Tin | ppm | ASTM D5185m | >10 | **<1** | 0 | <1 |
| 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 | **73** | 53 | 60 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | <1 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 100 | **86** | 79 | 96 |
| Calcium | ppm | ASTM D5185m | 0 | **<1** | 3 | 0 |
| Phosphorus | ppm | ASTM D5185m | 0 | **0** | 2 | 0 |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 0 | 5 |
| Sulfur | ppm | ASTM D5185m | 23500 | **22362** | 17886 | 22691 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **<1** | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | **11** | 13 | 17 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 1 | 4 |
| Water | % | ASTM D6304 | >0.05 | **0.016** | 0.004 | 0.025 |
| ppm Water | ppm | ASTM D6304 | >500 | **167** | 47 | 250.2 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **1349** | 8574 | 11480 |
| Particles >6µm | | ASTM D7647 | >1300 | **292** | ▲ 2479 | ▲ 4813 |
| Particles >14µm | | ASTM D7647 | >80 | **14** | ▲ 194 | ▲ 360 |
| Particles >21µm | | ASTM D7647 | >20 | **3** | ▲ 54 | ▲ 59 |
| Particles >38µm | | ASTM D7647 | >4 | **0** | 2 | 4 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | **18/15/11** | ▲ 20/18/15 | ▲ 21/19/16 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.38** | 0.36 | 0.35 |

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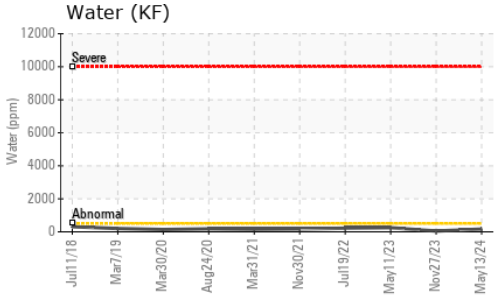
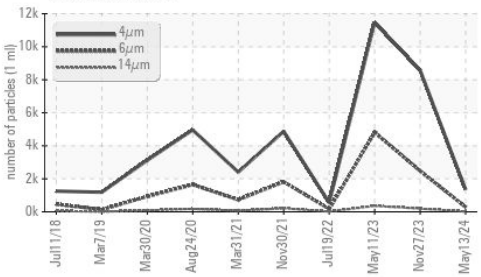
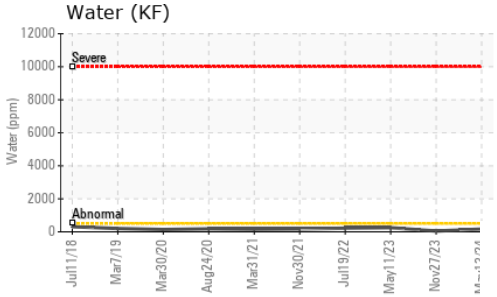
Water (KF)



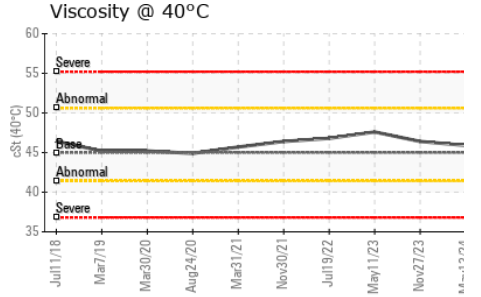

Particle Trend



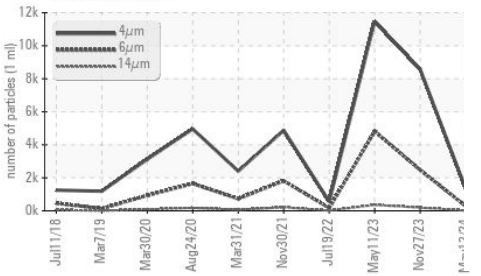

Water (KF)




Viscosity @ 40°C

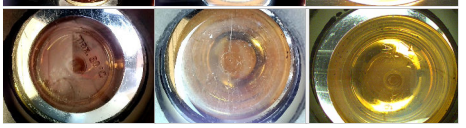



Particle Trend



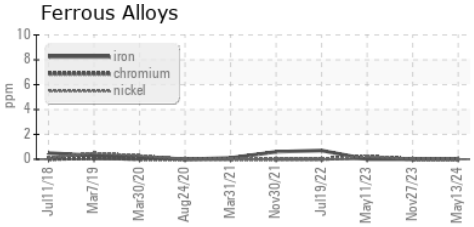

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | LIGHT | LIGHT |
| 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 | **45.9** | 46.4 | 47.6 |

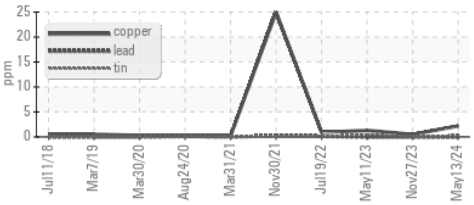
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

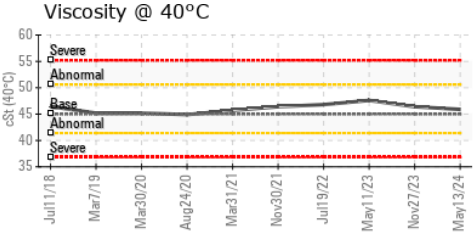
Ferrous Alloys



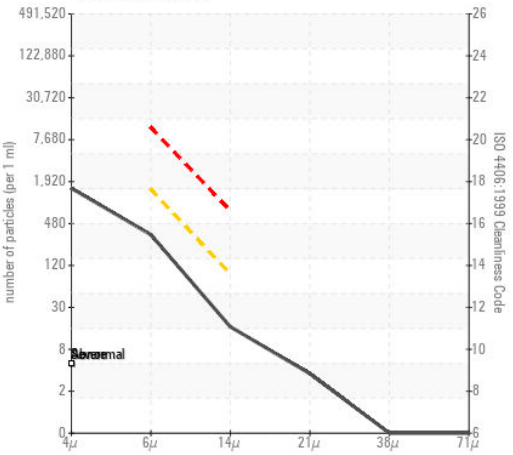

Non-ferrous Metals



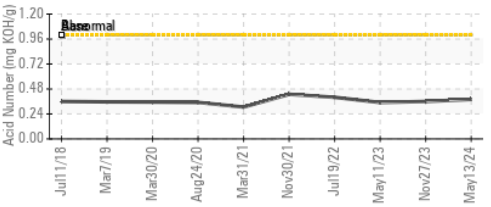

Viscosity @ 40°C




Particle Count




Acid Number




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA014459
**Lab Number** : 06185026
**Unique Number** : 11036352
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**Received** : 20 May 2024
**Tested** : 22 May 2024
**Diagnosed** : 22 May 2024 - Jonathan Hester

Certificate L2367

**AMAZON DEN2**
22205 E 19TH AVE
AURORA, CO
US 80019
Contact: Service Manager

*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: