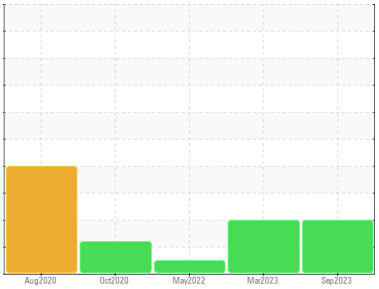
KAESER COMPRESSORS
Built for a lifetime.

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## KAESER SK 20 7261606 (S/N 1420)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) S-460 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. 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 acceptable for the time in service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **KC111118** | KC106073 | KC107284 |
| Sample Date | | Client Info | | **11 Sep 2023** | 03 Mar 2023 | 19 May 2022 |
| Machine Age | hrs | Client Info | | **22565** | 20391 | 16442 |
| Oil Age | hrs | Client Info | | **6123** | 3949 | 9057 |
| Oil Changed | | Client Info | | **Changed** | Not Changd | Changed |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **<1** | <1 | <1 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >3 | **0** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >10 | **1** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **5** | 2 | 3 |
| Tin | ppm | ASTM D5185m | >10 | **0** | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | --- |
| 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 | **46** | 15 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 90 | **47** | 54 | 40 |
| Calcium | ppm | ASTM D5185m | 2 | **2** | 1 | 0 |
| Phosphorus | ppm | ASTM D5185m | | **11** | 2 | 6 |
| Zinc | ppm | ASTM D5185m | | **0** | 7 | 0 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **<1** | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | **14** | 21 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 9 | 3 |
| Water | % | ASTM D6304 | >0.05 | **0.016** | 0.016 | 0.023 |
| ppm Water | ppm | ASTM D6304 | >500 | **164** | 164.2 | 234.0 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **33666** | 27086 | 4584 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **11739** | ▲ 10528 | 748 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **1023** | ▲ 1013 | 74 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **284** | ▲ 208 | 24 |
| Particles >38µm | | ASTM D7647 | >4 | ▲ **14** | ▲ 16 | 2 |
| Particles >71µm | | ASTM D7647 | >3 | **1** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **22/21/17** | ▲ 22/21/17 | 19/17/13 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | **0.36** | 0.34 | 0.35 |

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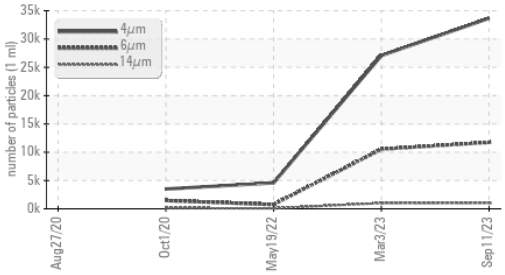
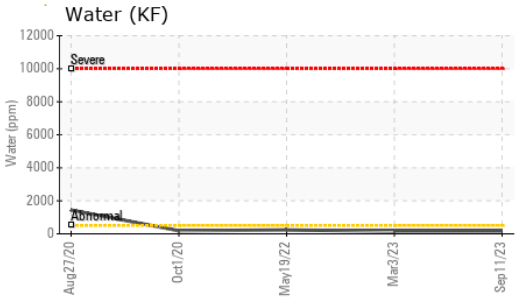
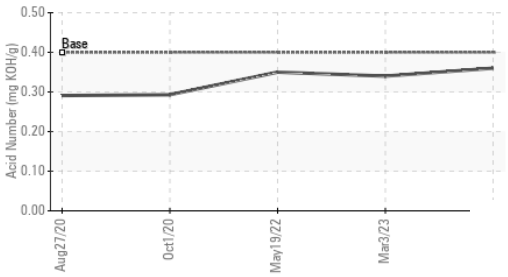
Particle Trend



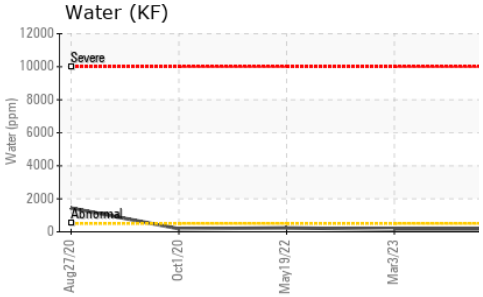

Water (KF)



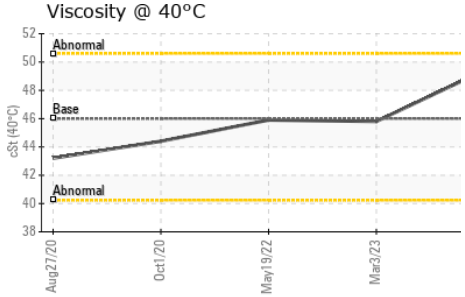

Acid Number




Water (KF)

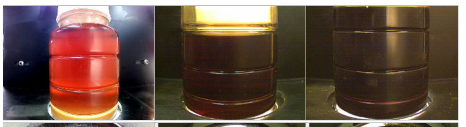
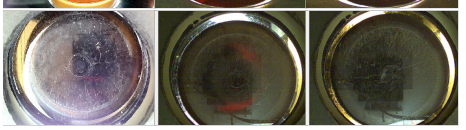



Viscosity @ 40°C



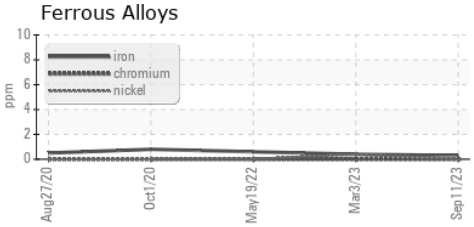

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **LIGHT** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | VLITE | 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 | **49.4** | 45.8 | 45.9 |

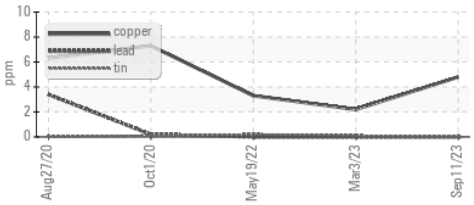
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

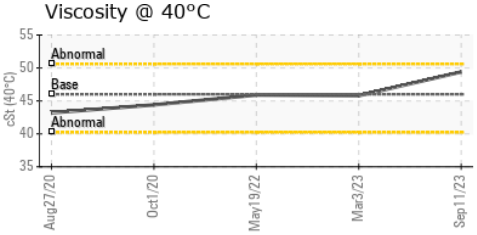
Ferrous Alloys



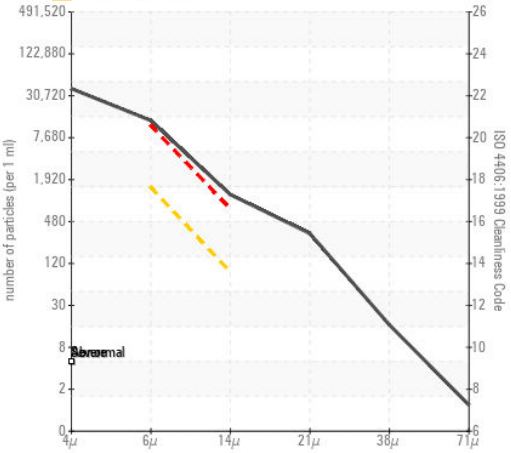

Non-ferrous Metals



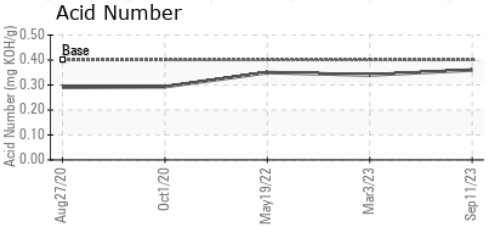

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck USA - 501 Madison Ave., Cary, NC 27513 | | |
| **Sample No.** | : KC111118 | **Recieved** | : 16 Jan 2024 |
| **Lab Number** | : 06062011 | **Diagnosed** | : 18 Jan 2024 |
| **Unique Number** | : 10833393 | **Diagnostician** | : Don Baldridge |
| **Test Package** | : IND 2 | | |

**PERFORMANCE SPORTS SYSTEMS**
9200 EAST 146TH ST, SUITE A
NOBLESVILLE, IN
US 46060
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: