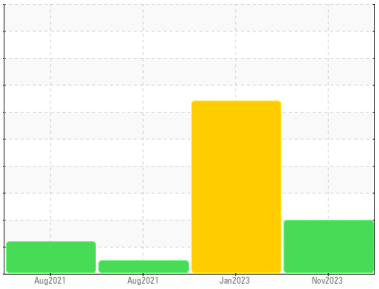
# PROBLEM SUMMARY

**Sample Rating Trend**

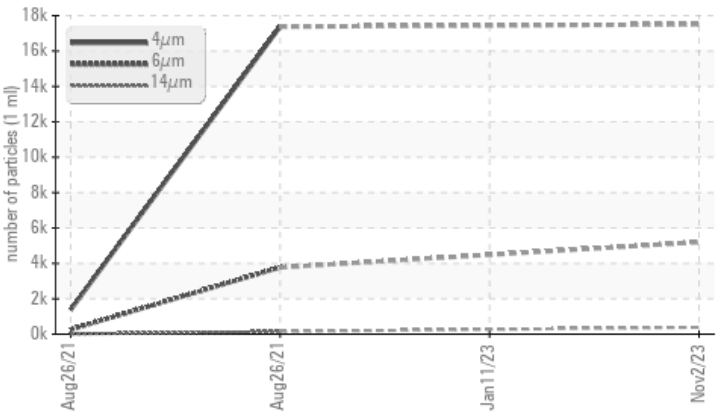



**ISO**

Machine Id
## 7087409 (S/N 1054)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## COMPONENT CONDITION SUMMARY

▲ Particle Trend




## 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.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ABNORMAL | SEVERE | NORMAL |
|---|---|---|---|---|---|---|
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **5202** | --- | 256 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **384** | --- | 12 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **106** | --- | 4 |
| Particles >38µm | | ASTM D7647 | >4 | ▲ **9** | --- | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **21/20/16** | --- | 15/11 |

**Customer Id:** KSPSUN
**Sample No.:** KCPA007110
**Lab Number:** 06013322
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Don Baldridge +1
don.b505@comcast.net

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

**11 Jan 2023 Diag: Don Baldridge**

**WATER**

Oil and filter change at the time of sampling has been noted. There is too much water present in this sample to perform a particle count. We recommend an early resample in 500 hours to monitor this condition.All component wear rates are normal. There is a high concentration of water present in the oil. Excessive free water present. The AN level is acceptable for this fluid.

**view report**

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**26 Aug 2021 Diag: Don Baldridge**

**NORMAL**

Resample at the next service interval to monitor.All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**view report**

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**26 Aug 2021 Diag: Don Baldridge**

**ISO**

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**view report**

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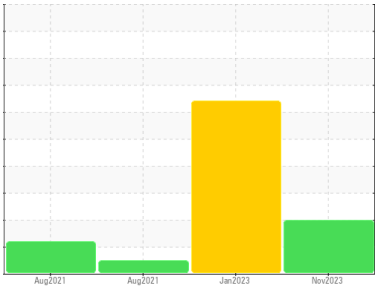
# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## 7087409 (S/N 1054)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## 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 | | **KCPA007110** | KCP52340 | KCP33762 |
| Sample Date | | Client Info | | **02 Nov 2023** | 11 Jan 2023 | 26 Aug 2021 |
| Machine Age | hrs | Client Info | | **19173** | 0 | 12420 |
| Oil Age | hrs | Client Info | | **0** | 0 | 2300 |
| Oil Changed | | Client Info | | **N/A** | Changed | Changed |
| Sample Status | | | | **ABNORMAL** | SEVERE | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **0** | 2 | 0 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >3 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **0** | 2 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **18** | 13 | 10 |
| Tin | ppm | ASTM D5185m | >10 | **0** | <1 | 0 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | 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 | <1 |
| Barium | ppm | ASTM D5185m | 90 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 100 | **<1** | 19 | <1 |
| Calcium | ppm | ASTM D5185m | 0 | **1** | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | 0 | **1** | 21 | 76 |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 62 | 0 |
| Sulfur | ppm | ASTM D5185m | 23500 | **17099** | 23665 | 11154 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **1** | 5 | <1 |
| Sodium | ppm | ASTM D5185m | | **0** | 3 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | <1 | 0 |
| Water | % | ASTM D6304 | >0.05 | **0.008** | ▲ 0.634 | 0.005 |
| ppm Water | ppm | ASTM D6304 | >500 | **82.9** | ▲ 6340 | 54.3 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **17507** | --- | 1385 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **5202** | --- | 256 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **384** | --- | 12 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **106** | --- | 4 |
| Particles >38µm | | ASTM D7647 | >4 | ▲ **9** | --- | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **1** | --- | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **21/20/16** | --- | 15/11 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.42** | 0.46 | 0.373 |

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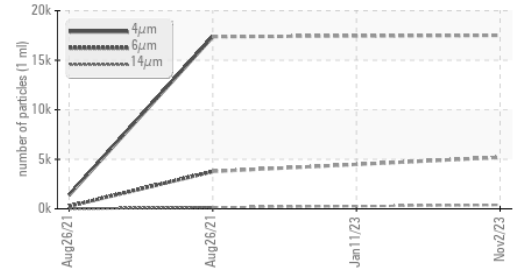
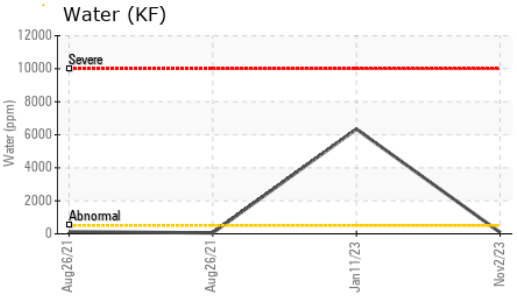
# OIL ANALYSIS REPORT

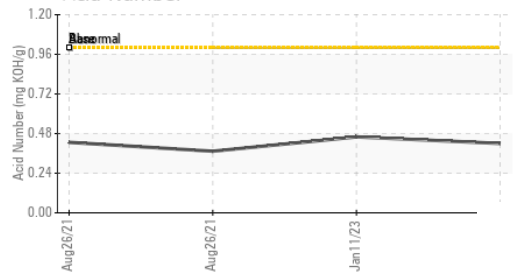
Particle Trend



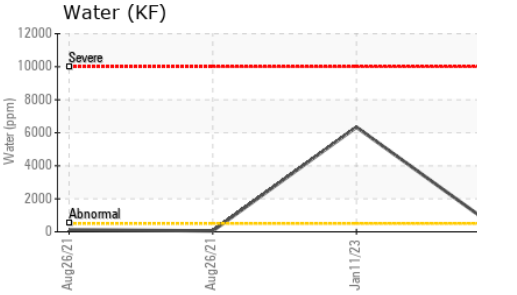

Water (KF)



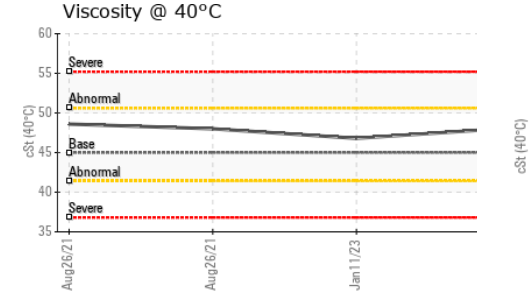

Acid Number




Water (KF)




Viscosity @ 40°C



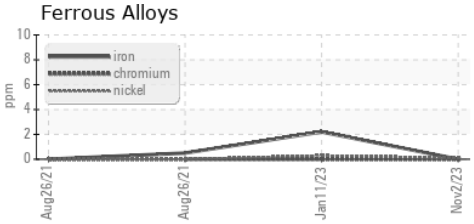

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | LIGHT | 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** | ▲ 0.2% | NEG |
| Free Water | scalar | *Visual | | **NEG** | ⬢ 5.0 | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 45 | **48.0** | 46.8 | 48.0 |

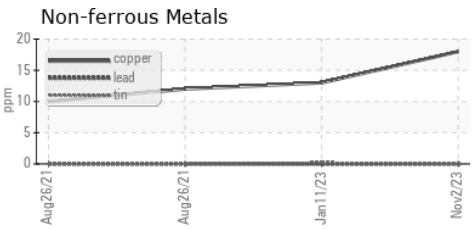
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

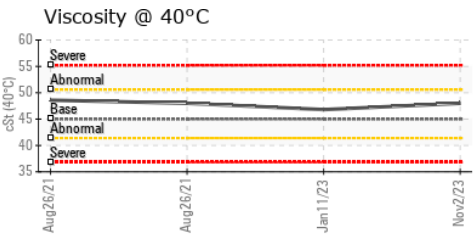
Ferrous Alloys



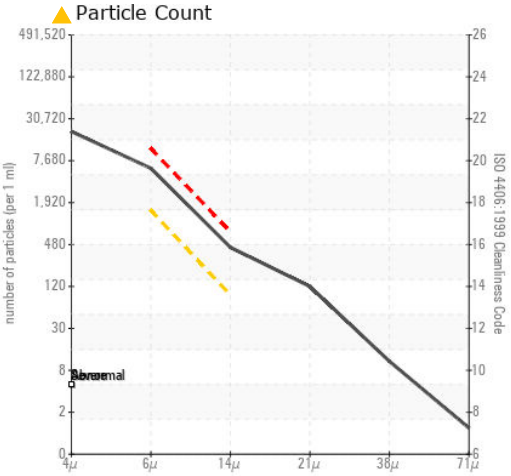

Non-ferrous Metals



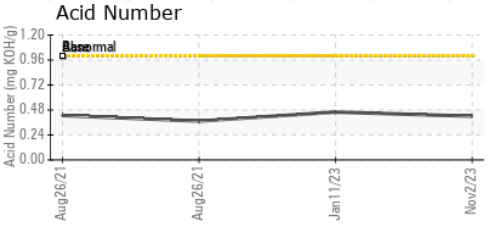

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA007110 **Received** : 20 Nov 2023
**Lab Number** : 06013322 **Diagnosed** : 22 Nov 2023
**Unique Number** : 10752466 **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)*

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