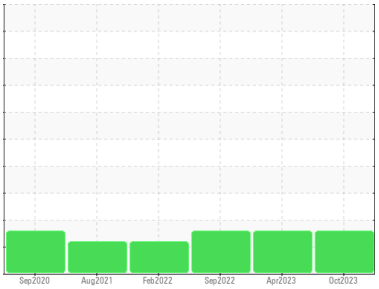
# PROBLEM SUMMARY

Sample Rating Trend

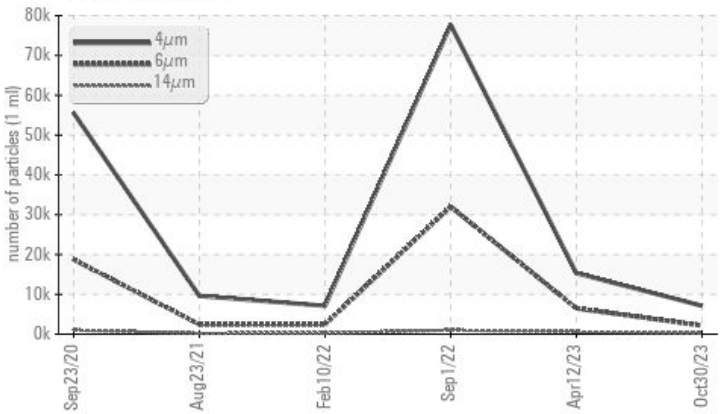



ISO

Machine Id
## KAESER 6427839
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 | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **2152** | ▲ 6482 | ▲ 32016 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **213** | ▲ 586 | ▲ 997 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **51** | ▲ 100 | ▲ 62 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **20/18/15** | ▲ 21/20/16 | ▲ 23/22/17 |


**Customer Id:** KROAUR
**Sample No.:** KCPA009478
**Lab Number:** 06001600
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

*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

**12 Apr 2023 Diag: Doug Bogart**

ISO

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.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**

**01 Sep 2022 Diag: Angela Borella**

ISO

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.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**

**10 Feb 2022 Diag: Don Baldridge**

ISO

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.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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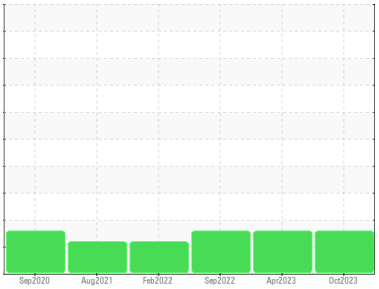
# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## KAESER 6427839
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 | | **KCPA009478** | KCPA000130 | KCP41313 |
| Sample Date | | Client Info | | **30 Oct 2023** | 12 Apr 2023 | 01 Sep 2022 |
| Machine Age | hrs | Client Info | | **21514** | 19153 | 16600 |
| Oil Age | hrs | Client Info | | **0** | 0 | 2334 |
| Oil Changed | | Client Info | | **N/A** | N/A | Changed |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **0** | 0 | <1 |
| Chromium | ppm | ASTM D5185m | >10 | **<1** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >10 | **2** | 0 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **2** | 2 | 2 |
| Tin | ppm | ASTM D5185m | >10 | **0** | 0 | <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 | 0 |
| Barium | ppm | ASTM D5185m | 90 | **6** | 21 | 17 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 100 | **61** | 65 | 51 |
| Calcium | ppm | ASTM D5185m | 0 | **1** | 1 | <1 |
| Phosphorus | ppm | ASTM D5185m | 0 | **0** | 0 | 2 |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 6 | 5 |
| Sulfur | ppm | ASTM D5185m | 23500 | **21895** | 19505 | 17902 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **<1** | 0 | 0 |
| Sodium | ppm | ASTM D5185m | | **10** | 19 | 19 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 4 | 0 |
| Water | % | ASTM D6304 | >0.05 | **0.029** | 0.009 | 0.018 |
| ppm Water | ppm | ASTM D6304 | >500 | **292.0** | 96.6 | 185.1 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **7120** | 15314 | 77708 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **2152** | ▲ 6482 | ▲ 32016 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **213** | ▲ 586 | ▲ 997 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **51** | ▲ 100 | ▲ 62 |
| Particles >38µm | | ASTM D7647 | >4 | **1** | 1 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **20/18/15** | ▲ 21/20/16 | ▲ 23/22/17 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.41** | 0.33 | 0.32 |

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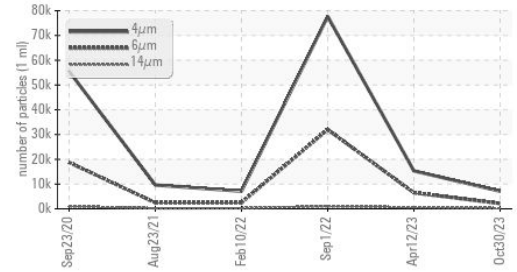
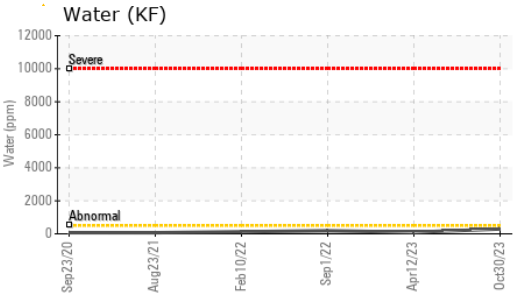
# OIL ANALYSIS REPORT

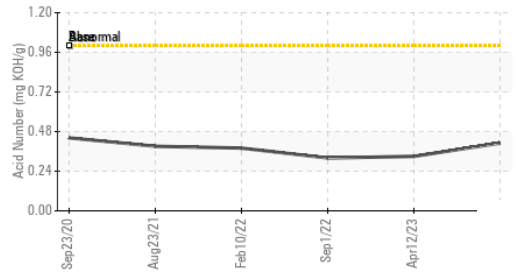
Particle Trend



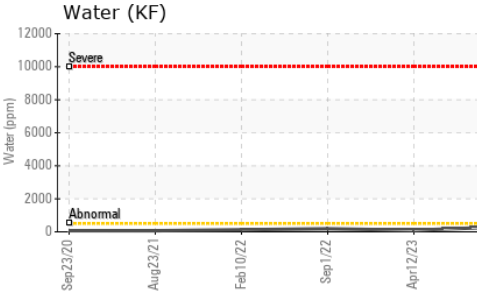

Water (KF)



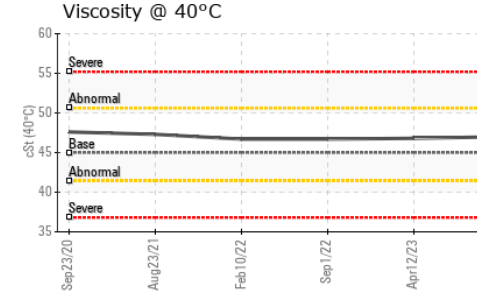

Acid Number




Water (KF)

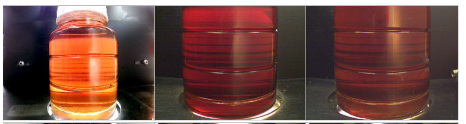
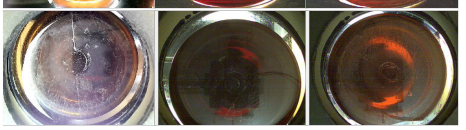



Viscosity @ 40°C



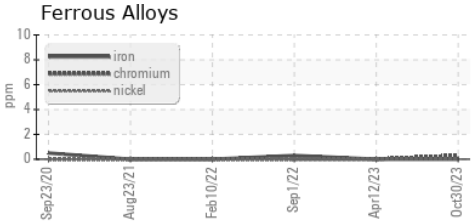

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | LIGHT | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 45 | **47.0** | 46.8 | 46.7 |

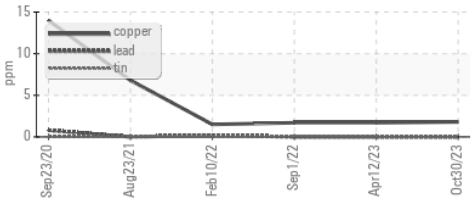
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

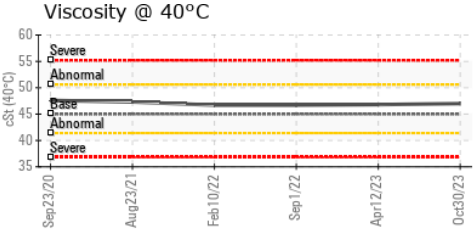
Ferrous Alloys



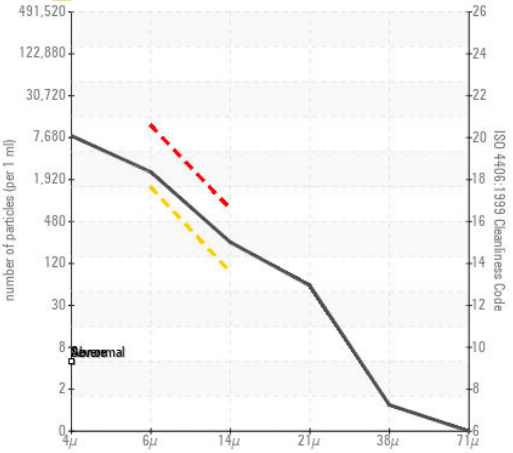

Non-ferrous Metals



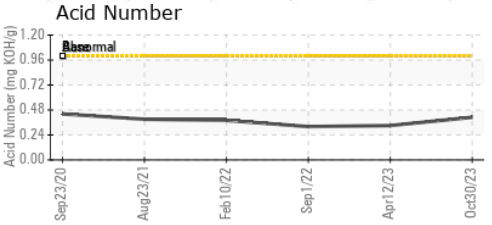

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA009478 **Received** : 08 Nov 2023
**Lab Number** : 06001600 **Diagnosed** : 09 Nov 2023
**Unique Number** : 10729960 **Diagnostician** : Doug Bogart
**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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