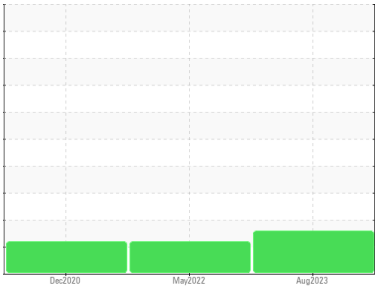
# PROBLEM SUMMARY

Sample Rating Trend

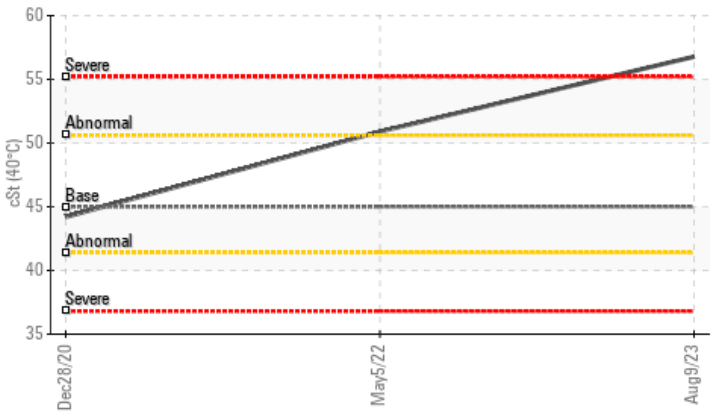



**VISCOSITY**

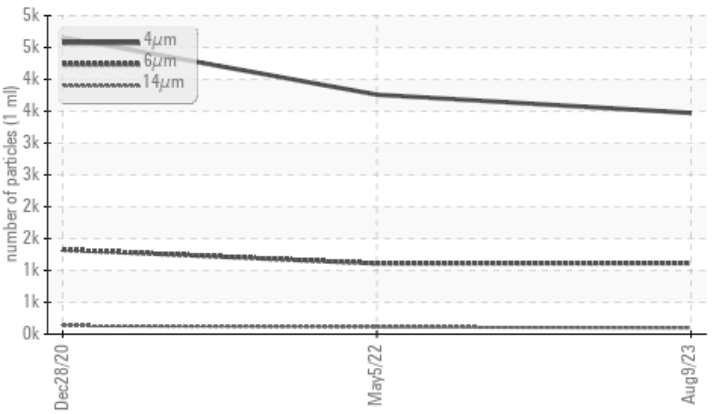
Machine Id
## 6808194 (S/N 1585)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## COMPONENT CONDITION SUMMARY

Viscosity @ 40°C




Particle Trend




## RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | **ABNORMAL** | ATTENTION | ATTENTION |
|---|---|---|---|---|---|---|
| Particles >14µm | | ASTM D7647 | >80 | ▲ **99** | ▲ 111 | ▲ 133 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **26** | ▲ 31 | ▲ 34 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **19/17/14** | ▲ 19/17/14 | ▲ 18/14 |
| Visc @ 40°C | cSt | ASTM D445 | 45 | ▲ **56.78** | 50.9 | 44.2 |

**Customer Id:** GEISUW
**Sample No.:** KCPA002677
**Lab Number:** 05930414
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Jonathan Hester +1 919-379-4092 x4092
jhester@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

**05 May 2022 Diag: Don Baldridge**

ISO

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 moderate 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**

**28 Dec 2020 Diag: Jonathan Hester**

ISO

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 moderate 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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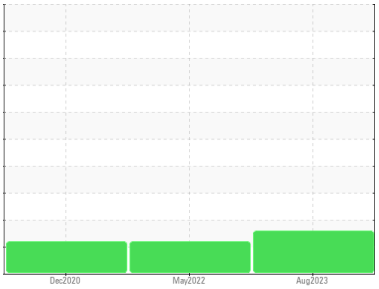
# OIL ANALYSIS REPORT

Sample Rating Trend




**VISCOSITY**

Machine Id
## 6808194 (S/N 1585)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## DIAGNOSIS

**Recommendation**
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 moderate amount of particulates present 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 | | **KCPA002677** | KCP48090 | KCP28850 |
| Sample Date | | Client Info | | **09 Aug 2023** | 05 May 2022 | 28 Dec 2020 |
| Machine Age | hrs | Client Info | | **18051** | 11398 | 3525 |
| Oil Age | hrs | Client Info | | **13885** | 2500 | 3525 |
| Oil Changed | | Client Info | | **N/A** | Changed | Changed |
| Sample Status | | | | **ABNORMAL** | ATTENTION | ATTENTION |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **0** | 0 | <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 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **11** | 10 | 7 |
| Tin | ppm | ASTM D5185m | >10 | **0** | 0 | 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** | 1 | 0 |
| Barium | ppm | ASTM D5185m | 90 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 100 | **0** | 0 | 2 |
| Calcium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | 0 | **0** | 2 | 8 |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 0 | 6 |
| Sulfur | ppm | ASTM D5185m | 23500 | **23196** | 12936 | 14732 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **2** | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | **1** | <1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Water | % | ASTM D6304 | >0.05 | **0.010** | 0.003 | 0.010 |
| ppm Water | ppm | ASTM D6304 | >500 | **109.6** | 35.7 | 102.2 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **3472** | 3759 | 4657 |
| Particles >6µm | | ASTM D7647 | >1300 | **1114** | 1109 | ▲ 1326 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **99** | ▲ 111 | ▲ 133 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **26** | ▲ 31 | ▲ 34 |
| Particles >38µm | | ASTM D7647 | >4 | **1** | 1 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **19/17/14** | ▲ 19/17/14 | ▲ 18/14 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.53** | 0.50 | 0.335 |

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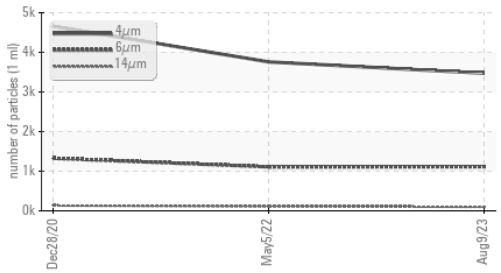
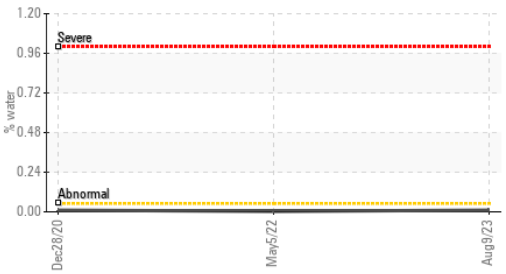
# OIL ANALYSIS REPORT

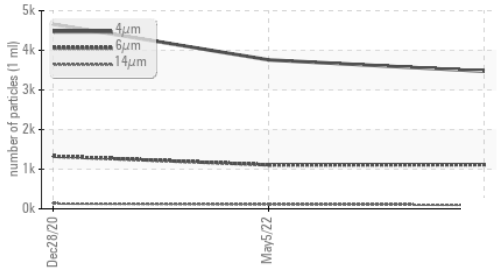
Particle Trend



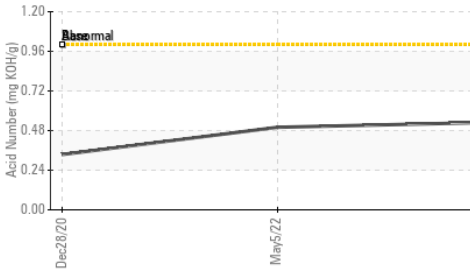

Water



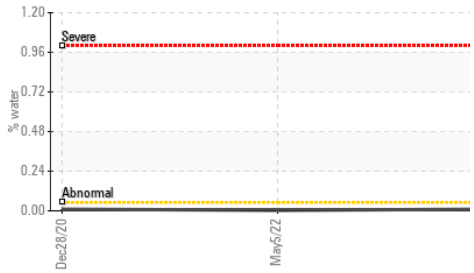

Particle Trend




Acid Number

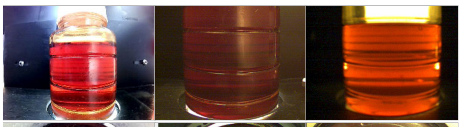



Water



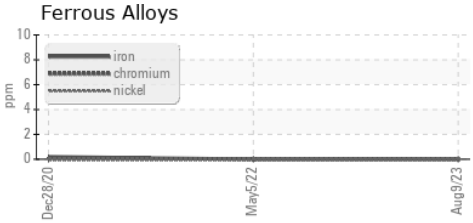

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | ▲ **56.78** | 50.9 | 44.2 |

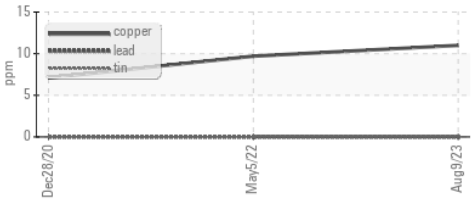
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

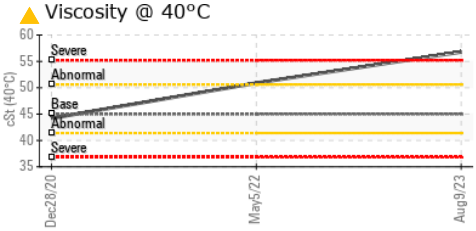
Ferrous Alloys



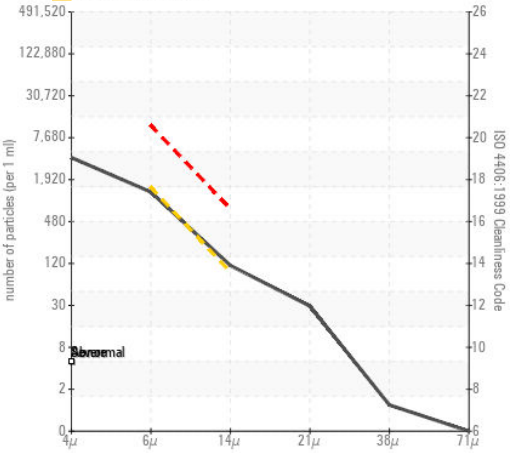

Non-ferrous Metals



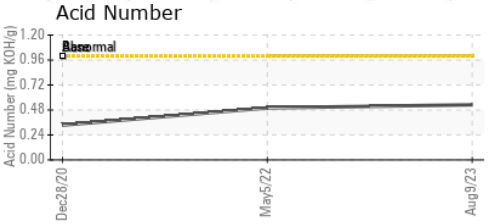

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA002677 **Received** : 21 Aug 2023
**Lab Number** : 05930414 **Diagnosed** : 24 Aug 2023
**Unique Number** : 10615685 **Diagnostician** : Jonathan Hester
**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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