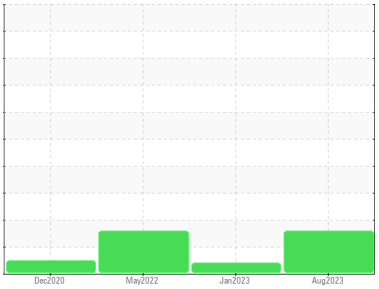
# PROBLEM SUMMARY

Sample Rating Trend

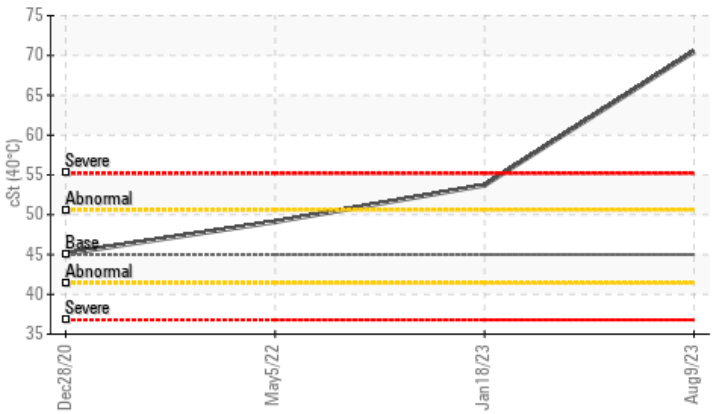



**VISCOSITY**

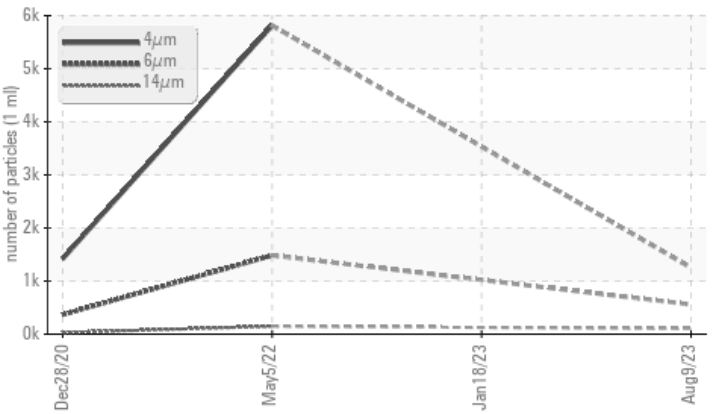
Machine Id
## 6799259 (S/N 1584)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## COMPONENT CONDITION SUMMARY

Viscosity @ 40°C




Particle Trend




## RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ATTENTION | ABNORMAL | ATTENTION |
|---|---|---|---|---|---|---|
| Particles >14µm | | ASTM D7647 | >80 | ▲ **101** | --- | ▲ 148 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **38** | --- | ▲ 54 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **17/16/14** | --- | ▲ 20/18/14 |
| Visc @ 40°C | cSt | ASTM D445 | 45 | ▲ **70.47** | 53.7 | 49.1 |

**Customer Id:** GEISUW
**Sample No.:** KCPA002682
**Lab Number:** 05930396
**Test Package:** IND 2

*To manage this report scan the QR code*

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

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Fluid | --- | --- | ? | Oil and filter change at the time of sampling has been noted. |
| Change Filter | --- | --- | ? | Oil and filter change at the time of sampling has been noted. |

## HISTORICAL DIAGNOSIS

**18 Jan 2023 Diag: Doug Bogart**

VIS DEBRIS

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. We were unable to perform a particle count due to a high concentration of particles present in this sample.All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

**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**

NORMAL

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

view report

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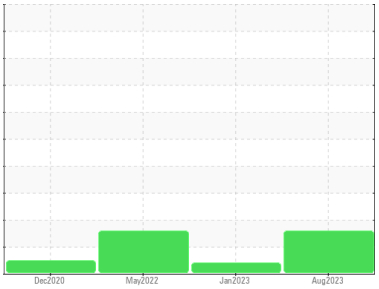
# OIL ANALYSIS REPORT

Sample Rating Trend




**VISCOSITY**

Machine Id
## 6799259 (S/N 1584)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Oil and 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 moderate amount of particulates present in the oil.

**Fluid Condition**
Viscosity of sample indicates oil is within ISO 68 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **KCPA002682** | KCP54930 | KCP48065 |
| Sample Date | | Client Info | | **09 Aug 2023** | 18 Jan 2023 | 05 May 2022 |
| Machine Age | hrs | Client Info | | **20169** | 15788 | 9637 |
| Oil Age | hrs | Client Info | | **1444** | 4390 | 2500 |
| Oil Changed | | Client Info | | **Changed** | Not Changd | Changed |
| Sample Status | | | | **ATTENTION** | ABNORMAL | ATTENTION |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **0** | 0 | 0 |
| 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** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **11** | 8 | 10 |
| Tin | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| 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 | 1 |
| Barium | ppm | ASTM D5185m | 90 | **0** | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 100 | **0** | <1 | 0 |
| Calcium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | 0 | **0** | <1 | 9 |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | 23500 | **29167** | 17646 | 13173 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **2** | 1 | 0 |
| Sodium | ppm | ASTM D5185m | | **2** | 0 | 1 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | <1 | 0 |
| Water | % | ASTM D6304 | >0.05 | **0.006** | 0.010 | 0.009 |
| ppm Water | ppm | ASTM D6304 | >500 | **69.7** | 106.8 | 90.0 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **1252** | --- | 5813 |
| Particles >6µm | | ASTM D7647 | >1300 | **558** | --- | ▲ 1484 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **101** | --- | ▲ 148 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **38** | --- | ▲ 54 |
| Particles >38µm | | ASTM D7647 | >4 | **2** | --- | 3 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | --- | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **17/16/14** | --- | ▲ 20/18/14 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.54** | 0.46 | 0.44 |

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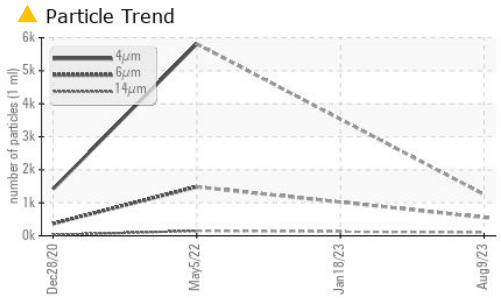
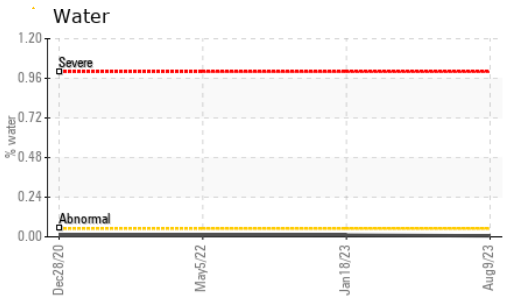
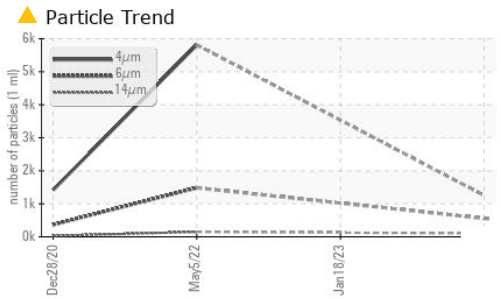
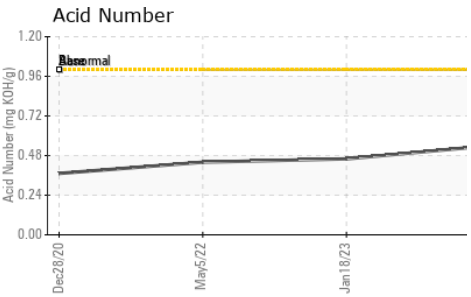
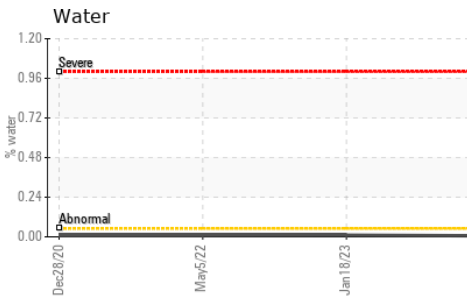
# OIL ANALYSIS REPORT



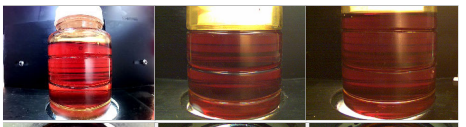
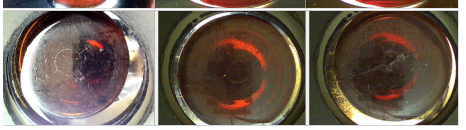



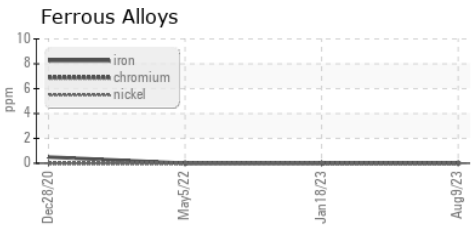



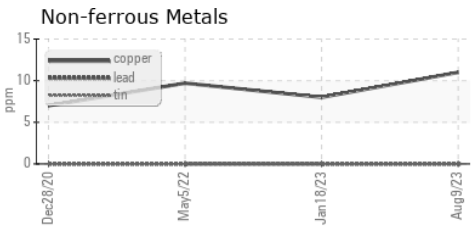

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **LIGHT** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

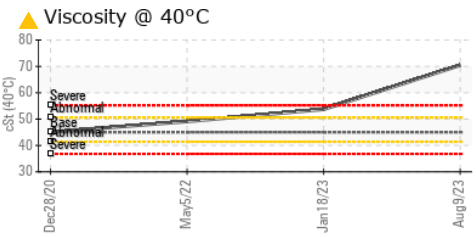
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 45 | ▲ **70.47** | 53.7 | 49.1 |

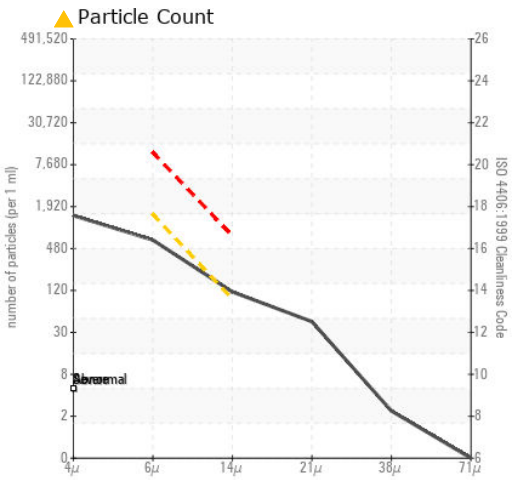
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

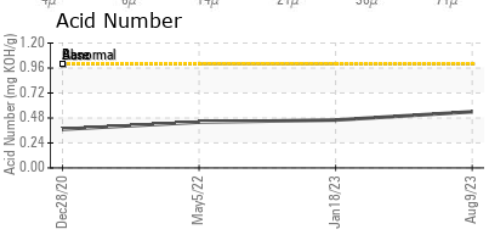
## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA002682 **Received** : 21 Aug 2023
**Lab Number** : 05930396 **Diagnosed** : 24 Aug 2023
**Unique Number** : 10615667 **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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