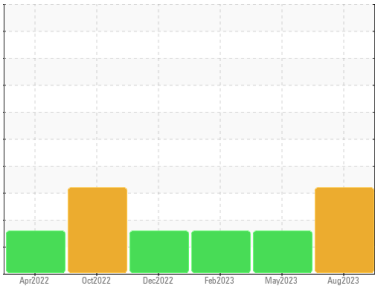
# PROBLEM SUMMARY

Sample Rating Trend

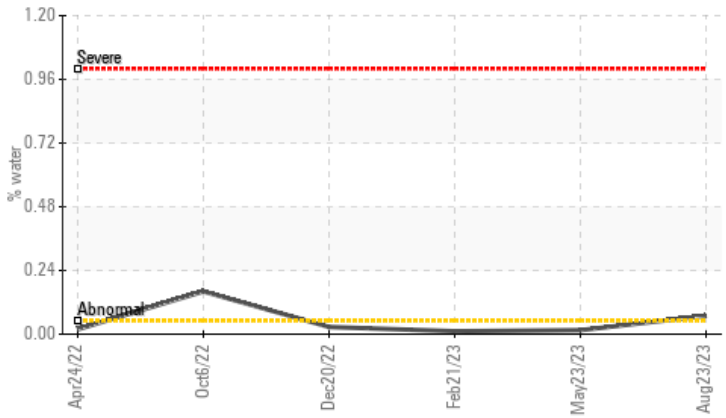



**WATER**

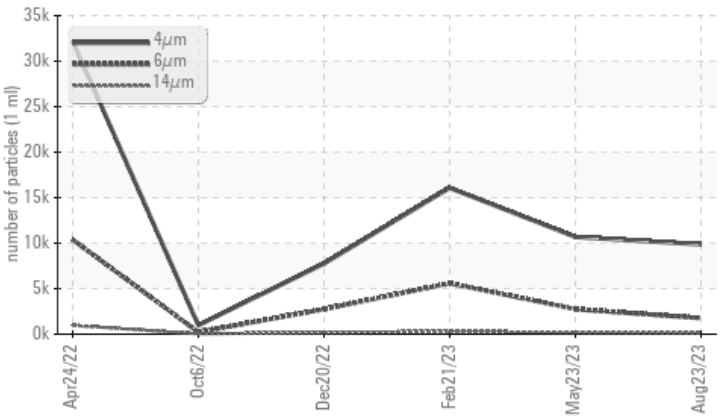
Machine Id
## KAESER 7455916
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) S-460 (--- GAL)**

## COMPONENT CONDITION SUMMARY

### Water




### Particle Trend




## RECOMMENDATION

The filter change at the time of sampling has been noted. We advise that you stop the unit and follow the water drain-off procedure for this component. We recommend an early resample in 500 hours to monitor this condition.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Water | % | ASTM D6304 | >0.05 | ▲ **0.069** | 0.015 | 0.011 |
| ppm Water | ppm | ASTM D6304 | >500 | ▲ **694.3** | 159.4 | 119.9 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **1760** | ▲ 2744 | ▲ 5577 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **132** | ▲ 198 | ▲ 298 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **52** | ▲ 44 | ▲ 62 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **20/18/14** | ▲ 21/19/15 | ▲ 21/20/15 |

**Customer Id:** CHEJES
**Sample No.:** KC111892
**Lab Number:** 05936131
**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

**23 May 2023 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**

**21 Feb 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**

**20 Dec 2022 Diag: Don Baldridge**

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 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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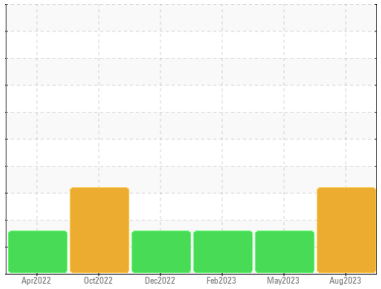
# OIL ANALYSIS REPORT

Sample Rating Trend




**WATER**

Machine Id
## KAESER 7455916
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) S-460 (--- GAL)**

## DIAGNOSIS

**Recommendation**
The filter change at the time of sampling has been noted. We advise that you stop the unit and follow the water drain-off procedure for this component. We recommend an early resample in 500 hours to monitor this condition.

**Wear**
All component wear rates are normal.

**Contamination**
There is a moderate amount of particulates present in the oil. There is a light concentration of water 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 | | **KC111892** | KC104982 | KC108013 |
| Sample Date | | Client Info | | **23 Aug 2023** | 23 May 2023 | 21 Feb 2023 |
| Machine Age | hrs | Client Info | | **0** | 14162 | 12122 |
| Oil Age | hrs | Client Info | | **0** | 2040 | 1180 |
| Oil Changed | | Client Info | | **N/A** | Changed | Not Changd |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| 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 | **<1** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **0** | 0 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **1** | 2 | <1 |
| Tin | ppm | ASTM D5185m | >10 | **0** | 0 | 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 |
| Barium | ppm | ASTM D5185m | 90 | **61** | 37 | 58 |
| Molybdenum | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 90 | **77** | 70 | 73 |
| Calcium | ppm | ASTM D5185m | 2 | **2** | 2 | 1 |
| Phosphorus | ppm | ASTM D5185m | | **1** | <1 | 1 |
| Zinc | ppm | ASTM D5185m | | **1** | 0 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **1** | 5 | 2 |
| Sodium | ppm | ASTM D5185m | | **19** | 23 | 18 |
| Potassium | ppm | ASTM D5185m | >20 | **7** | 6 | <1 |
| Water | % | ASTM D6304 | >0.05 | ▲ **0.069** | 0.015 | 0.011 |
| ppm Water | ppm | ASTM D6304 | >500 | ▲ **694.3** | 159.4 | 119.9 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **9871** | 10680 | 16078 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **1760** | ▲ 2744 | ▲ 5577 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **132** | ▲ 198 | ▲ 298 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **52** | ▲ 44 | ▲ 62 |
| Particles >38µm | | ASTM D7647 | >4 | **3** | 1 | 2 |
| Particles >71µm | | ASTM D7647 | >3 | **1** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **20/18/14** | ▲ 21/19/15 | ▲ 21/20/15 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | **0.34** | 0.29 | 0.32 |

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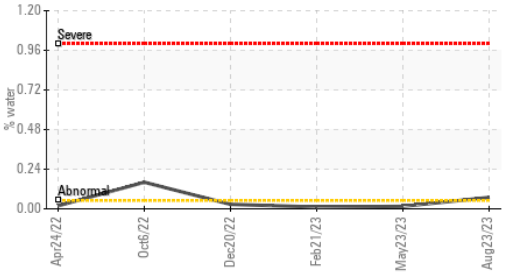
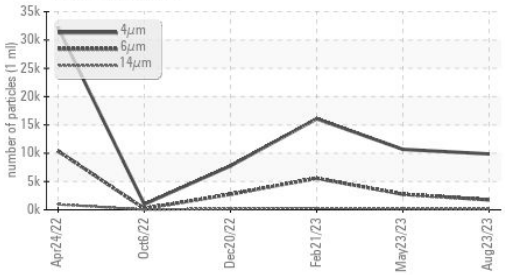
# OIL ANALYSIS REPORT

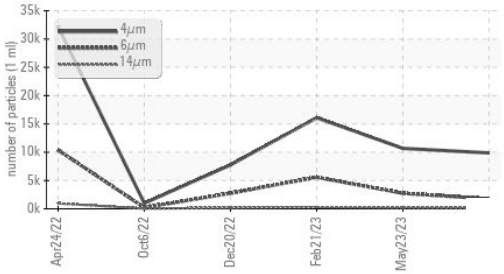
Water



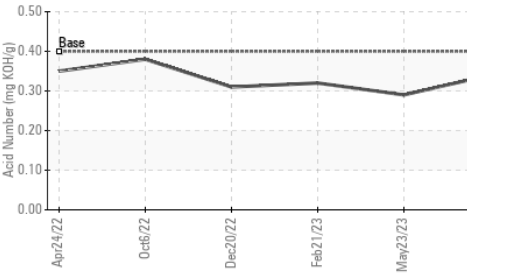

Particle Trend



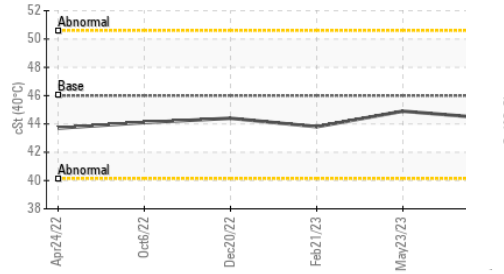

Particle Trend




Acid Number

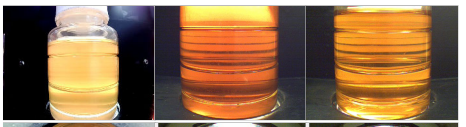



Viscosity @ 40°C



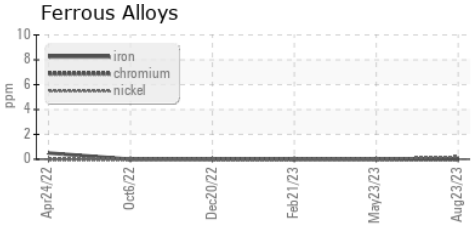

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **LIGHT** | 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 | 46 | **44.4** | 44.9 | 43.8 |

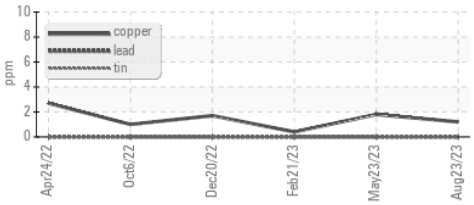
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

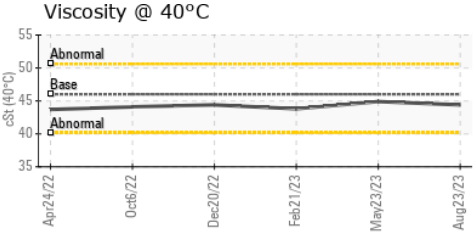
Ferrous Alloys



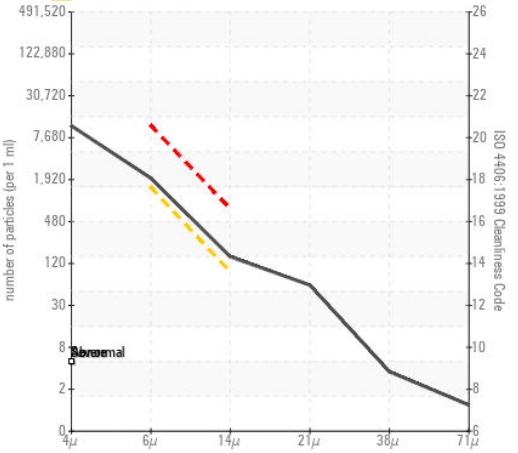

Non-ferrous Metals



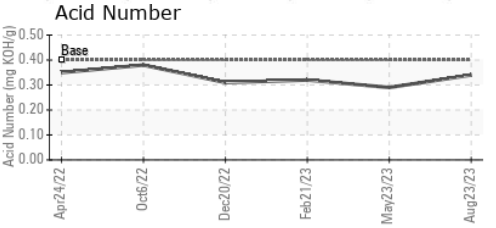

Viscosity @ 40°C




Particle Count




Acid Number




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KC111892
**Lab Number** : 05936131
**Unique Number** : 10621402
**Test Package** : IND 2

**Received** : 28 Aug 2023
**Diagnosed** : 29 Aug 2023
**Diagnostician** : Doug Bogart

Certificate L2367

**CHEWY**
37 ARCHBALD HEIGHTS RD
JESSUP, PA
US 18434
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: