KAESER COMPRESSORS
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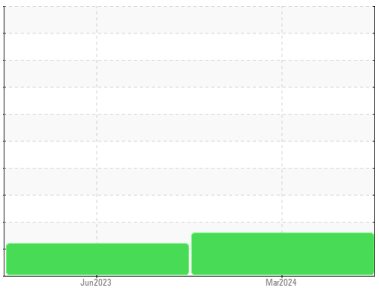
# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## KAESER 7186434
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## DIAGNOSIS

**Recommendation**
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.

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

**Contamination**
There is a moderate 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 | | **KC36697** | KCP33381 | --- |
| Sample Date | | Client Info | | **21 Mar 2024** | 07 Jun 2023 | --- |
| Machine Age | hrs | Client Info | | **19067** | 16329 | --- |
| Oil Age | hrs | Client Info | | **2896** | 0 | --- |
| Oil Changed | | Client Info | | **Changed** | Not Changd | --- |
| Sample Status | | | | **ATTENTION** | ABNORMAL | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **1** | 30 | --- |
| Chromium | ppm | ASTM D5185m | >10 | **<1** | 0 | --- |
| Nickel | ppm | ASTM D5185m | >3 | **<1** | 0 | --- |
| Titanium | ppm | ASTM D5185m | >3 | **<1** | 0 | --- |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >10 | **2** | ▲ 18 | --- |
| Lead | ppm | ASTM D5185m | >10 | **<1** | 0 | --- |
| Copper | ppm | ASTM D5185m | >50 | **4** | 9 | --- |
| Tin | ppm | ASTM D5185m | >10 | **<1** | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185m | | **<1** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **0** | 0 | --- |
| Barium | ppm | ASTM D5185m | 90 | **12** | 4 | --- |
| Molybdenum | ppm | ASTM D5185m | 0 | **<1** | 0 | --- |
| Manganese | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Magnesium | ppm | ASTM D5185m | 100 | **38** | 5 | --- |
| Calcium | ppm | ASTM D5185m | 0 | **5** | 0 | --- |
| Phosphorus | ppm | ASTM D5185m | 0 | **4** | 1 | --- |
| Zinc | ppm | ASTM D5185m | 0 | **16** | 73 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **<1** | <1 | --- |
| Sodium | ppm | ASTM D5185m | | **8** | 3 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **3** | <1 | --- |
| Water | % | ASTM D6304 | >0.05 | **0.012** | 0.015 | --- |
| ppm Water | ppm | ASTM D6304 | >500 | **129** | 153.9 | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **13730** | --- | --- |
| Particles >6µm | | ASTM D7647 | >1300 | **2294** | --- | --- |
| Particles >14µm | | ASTM D7647 | >80 | **94** | --- | --- |
| Particles >21µm | | ASTM D7647 | >20 | **29** | --- | --- |
| Particles >38µm | | ASTM D7647 | >4 | **2** | --- | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | **21/18/14** | --- | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.40** | 0.37 | --- |

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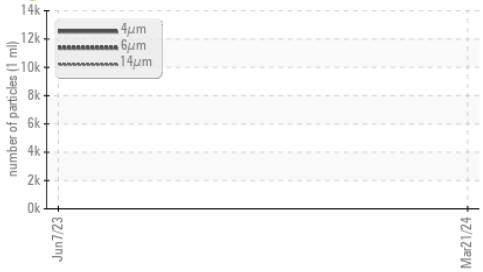
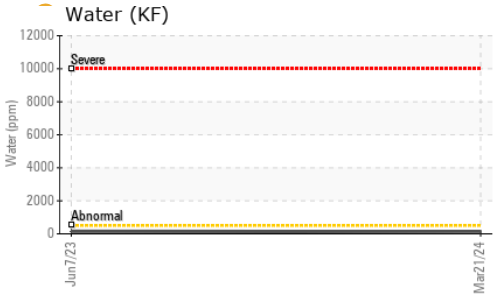
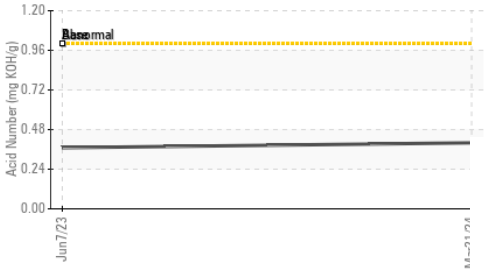
Particle Trend



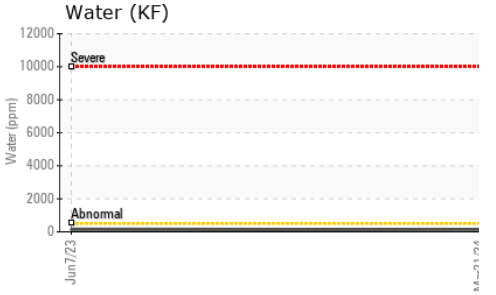

Water (KF)



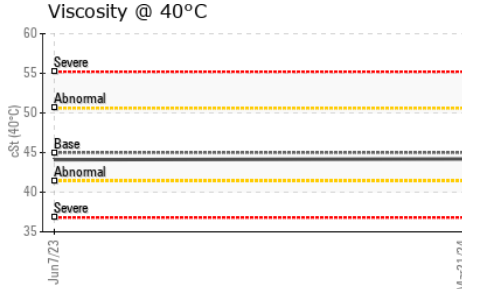

Acid Number




Water (KF)




Viscosity @ 40°C



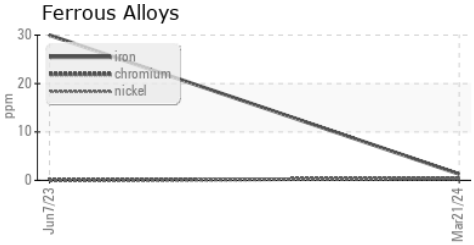

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Debris | scalar | *Visual | NONE | **NONE** | ▲ MODER | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.05 | **NEG** | NEG | --- |
| Free Water | scalar | *Visual | | **NEG** | NEG | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 45 | **44.2** | 44.1 | --- |

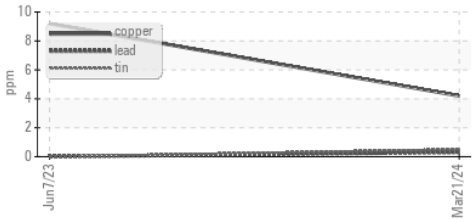
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |

## GRAPHS

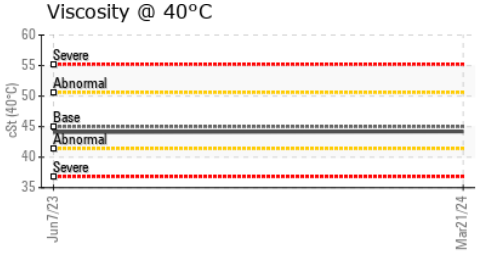
Ferrous Alloys



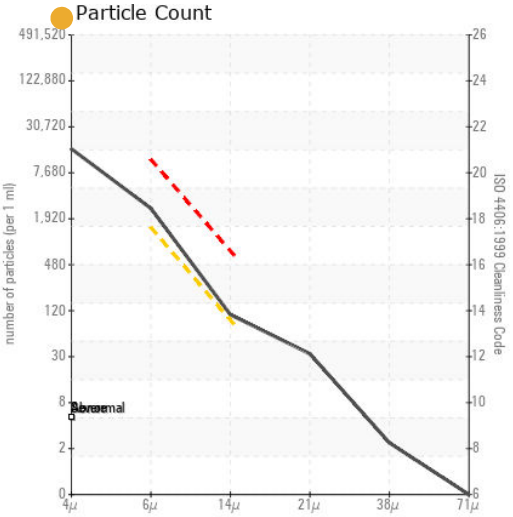

Non-ferrous Metals




Viscosity @ 40°C




Particle Count




Acid Number


Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KC36697
**Lab Number** : 06148082
**Unique Number** : 10978160
**Test Package** : IND 2

**Received** : 12 Apr 2024
**Tested** : 15 Apr 2024
**Diagnosed** : 17 Apr 2024 - Jonathan Hester

**LEIDOS BIOMEDICAL RESEARCH INC**
BLDG 1050 BOYLES ST
FREDERICK, MD
US 21702
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: