KAESER COMPRESSORS
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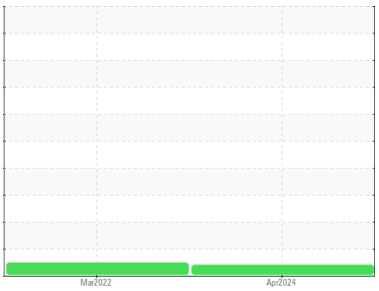
# OIL ANALYSIS REPORT

Sample Rating Trend




**VISCOSITY**

Machine Id
## 4891916 (S/N 1059)
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 no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

**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 | | **KCPA013701** | KCP38114 | --- |
| Sample Date | | Client Info | | **18 Apr 2024** | 14 Mar 2022 | --- |
| Machine Age | hrs | Client Info | | **40892** | 42000 | --- |
| Oil Age | hrs | Client Info | | **0** | 10000 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | --- |
| Sample Status | | | | **ABNORMAL** | NORMAL | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **0** | <1 | --- |
| Chromium | ppm | ASTM D5185m | >10 | **<1** | 0 | --- |
| Nickel | ppm | ASTM D5185m | >3 | **<1** | 1 | --- |
| Titanium | ppm | ASTM D5185m | >3 | **<1** | 0 | --- |
| Silver | ppm | ASTM D5185m | >2 | **<1** | <1 | --- |
| Aluminum | ppm | ASTM D5185m | >10 | **3** | <1 | --- |
| Lead | ppm | ASTM D5185m | >10 | **<1** | <1 | --- |
| Copper | ppm | ASTM D5185m | >50 | **5** | 2 | --- |
| Tin | ppm | ASTM D5185m | >10 | **<1** | <1 | --- |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Cadmium | ppm | ASTM D5185m | | **<1** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **0** | <1 | --- |
| Barium | ppm | ASTM D5185m | 90 | **0** | 52 | --- |
| Molybdenum | ppm | ASTM D5185m | 0 | **<1** | 0 | --- |
| Manganese | ppm | ASTM D5185m | | **<1** | 0 | --- |
| Magnesium | ppm | ASTM D5185m | 100 | **2** | 57 | --- |
| Calcium | ppm | ASTM D5185m | 0 | **0** | <1 | --- |
| Phosphorus | ppm | ASTM D5185m | 0 | **0** | 10 | --- |
| Zinc | ppm | ASTM D5185m | 0 | **0** | 0 | --- |
| Sulfur | ppm | ASTM D5185m | 23500 | **20752** | 17292 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **2** | <1 | --- |
| Sodium | ppm | ASTM D5185m | | **0** | 3 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 2 | --- |
| Water | % | ASTM D6304 | >0.05 | **0.006** | 0.023 | --- |
| ppm Water | ppm | ASTM D6304 | >500 | **60** | 237.0 | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **1113** | 2193 | --- |
| Particles >6µm | | ASTM D7647 | >1300 | **385** | 607 | --- |
| Particles >14µm | | ASTM D7647 | >80 | **44** | 51 | --- |
| Particles >21µm | | ASTM D7647 | >20 | **17** | 11 | --- |
| Particles >38µm | | ASTM D7647 | >4 | **0** | 1 | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | **17/16/13** | 16/13 | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.59** | 0.45 | --- |

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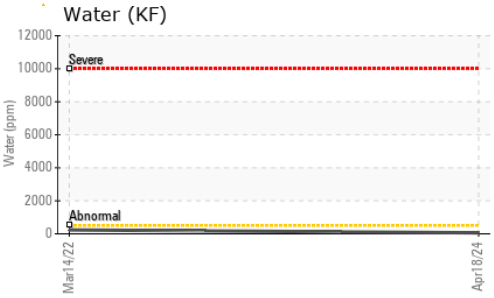
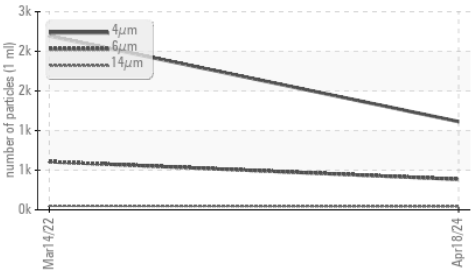
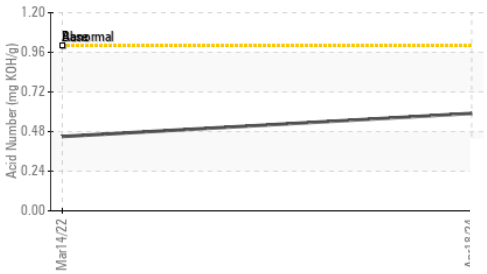
Water (KF)



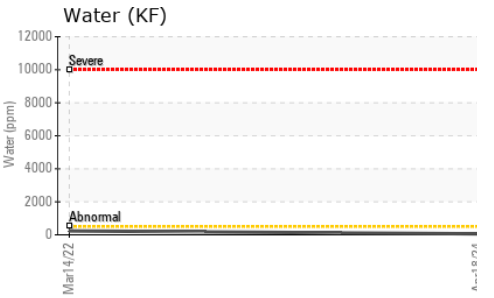

Particle Trend



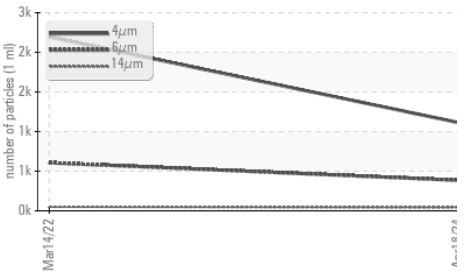

Acid Number




Water (KF)

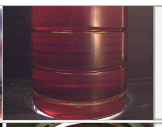
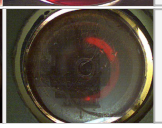



Particle Trend



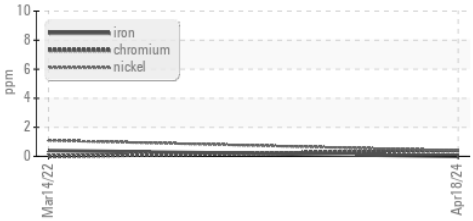

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | --- |
| 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 | ▲ **54.2** | 49.8 | --- |

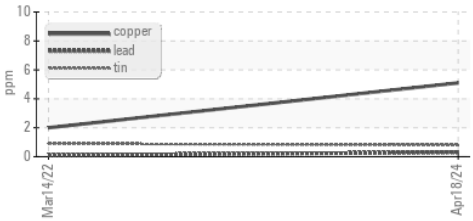
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |

## GRAPHS

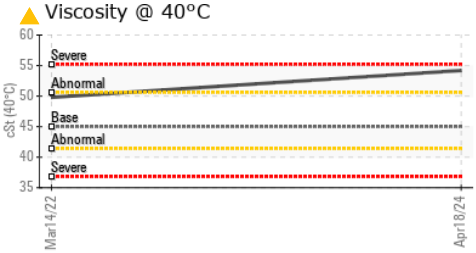
Ferrous Alloys



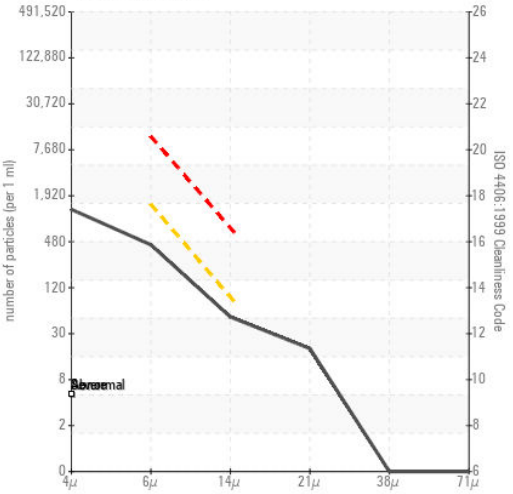

Non-ferrous Metals



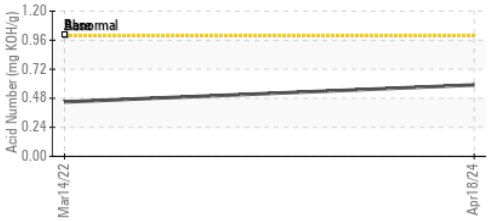

▲ Viscosity @ 40°C




Particle Count




Acid Number




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA013701
**Lab Number** : 06156952
**Unique Number** : 10992375
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**Received** : 22 Apr 2024
**Tested** : 26 Apr 2024
**Diagnosed** : 26 Apr 2024 - Jonathan Hester

Certificate L2367

**KNT MANUFACTURING**
39760 EUREKA DR
NEWARK, CA
US 94560
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: