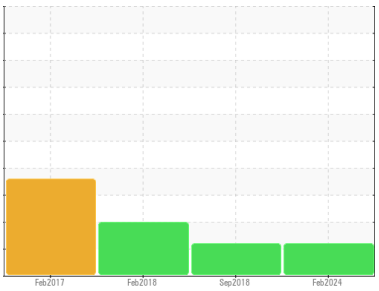
KAESER COMPRESSORS
Built for a lifetime.

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## KAESER SM 10 4492287 (S/N 1265)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) S-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**
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 | | **KCPA015254** | KCP14510 | KCP08442 |
| Sample Date | | Client Info | | **23 Feb 2024** | 19 Sep 2018 | 26 Feb 2018 |
| Machine Age | hrs | Client Info | | **0** | 10854 | 4895 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Changed** | Changed | Not Changd |
| Sample Status | | | | **ATTENTION** | ATTENTION | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **2** | <1 | 9 |
| Chromium | ppm | ASTM D5185m | >10 | **<1** | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >3 | **<1** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | **<1** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **1** | 0 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **1** | 2 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **12** | 7 | 5 |
| Tin | ppm | ASTM D5185m | >10 | **1** | <1 | 0 |
| Antimony | ppm | ASTM D5185m | | **---** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **1** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 0 | 2 |
| Barium | ppm | ASTM D5185m | 90 | **14** | 0 | 28 |
| Molybdenum | ppm | ASTM D5185m | | **1** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **1** | <1 | 2 |
| Magnesium | ppm | ASTM D5185m | 90 | **61** | 32 | 74 |
| Calcium | ppm | ASTM D5185m | 2 | **6** | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | | **4** | 2 | 58 |
| Zinc | ppm | ASTM D5185m | | **38** | 6 | 8 |
| Sulfur | ppm | ASTM D5185m | | **20553** | 16682 | 20033 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **0** | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | **15** | 12 | 13 |
| Potassium | ppm | ASTM D5185m | >20 | **4** | 2 | 4 |
| Water | % | ASTM D6304 | >0.05 | **0.027** | 0.020 | ▲ 0.171 |
| ppm Water | ppm | ASTM D6304 | >500 | **277** | 200 | ▲ 1710 |

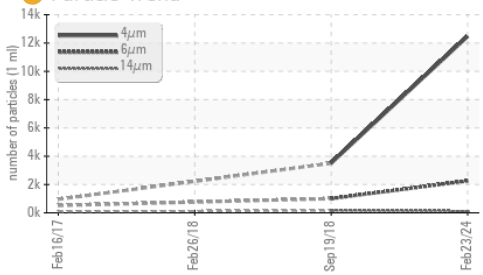
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **12458** | 3503 | --- |
| Particles >6µm | | ASTM D7647 | >1300 | ● **2257** | 1002 | --- |
| Particles >14µm | | ASTM D7647 | >80 | ● **119** | ● 157 | --- |
| Particles >21µm | | ASTM D7647 | >20 | **28** | ● 70 | --- |
| Particles >38µm | | ASTM D7647 | >4 | **1** | ● 8 | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ● **21/18/14** | ● 17/14 | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | **0.38** | 0.337 | 0.397 |

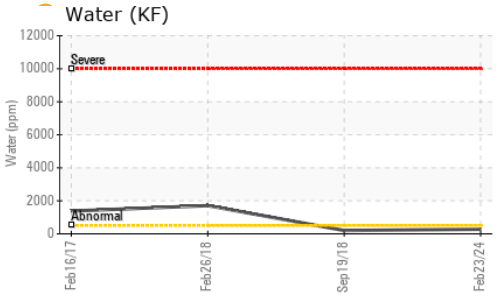
KAESER COMPRESSORS
Built for a lifetime.

# OIL ANALYSIS REPORT

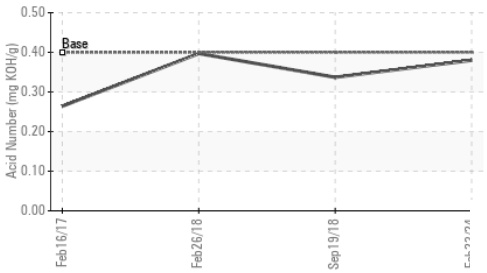
Particle Trend



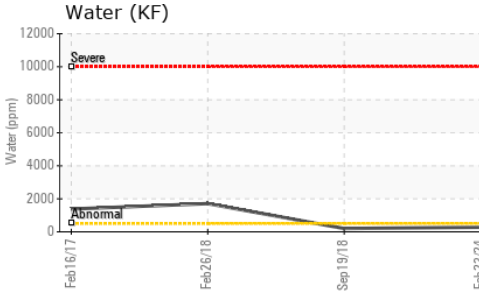

Water (KF)



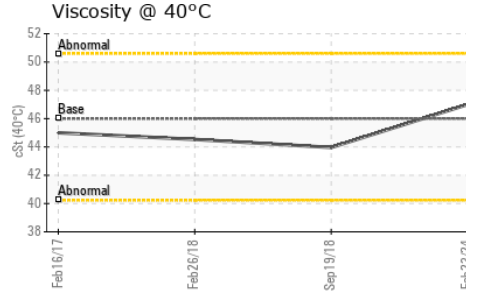

Acid Number




Water (KF)

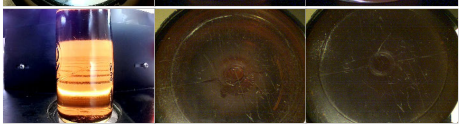



Viscosity @ 40°C



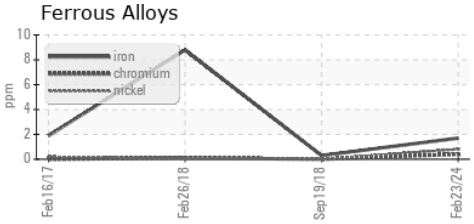

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | ▲ HEAVY |
| 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 | 0.1% |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 46 | **47.0** | 43.96 | 44.53 |

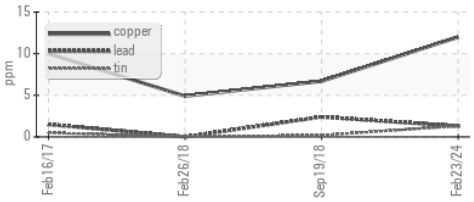
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

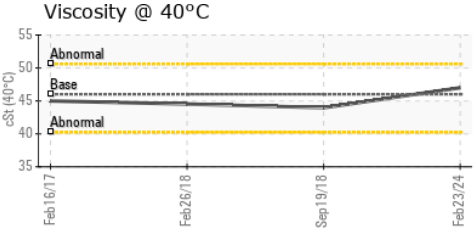
Ferrous Alloys



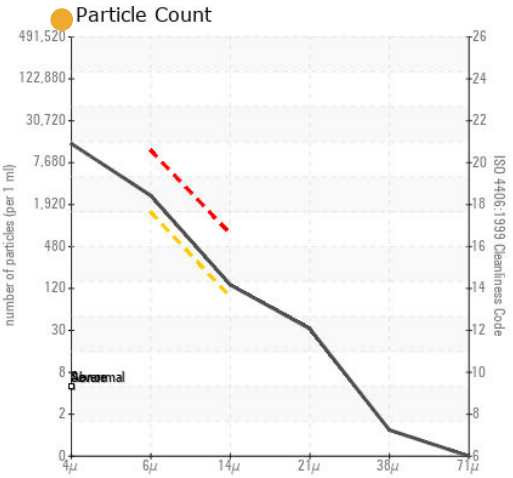

Non-ferrous Metals



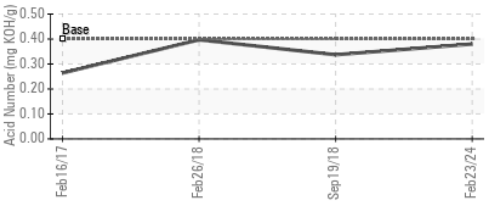

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA015254
**Lab Number** : 06146613
**Unique Number** : 10976691
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**Received** : 11 Apr 2024
**Tested** : 12 Apr 2024
**Diagnosed** : 16 Apr 2024 - Angela Borella

*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)*

**Kaeser Compressor - Houston Ops**
16720 HEDGECRAFT DR
HOUSTON, TX
US 77060
Contact: STACEY DAVIS
stacey.davis@kaeser.com
T: (866)245-9611
F: (877)577-6873

Report Id: KAEHOU [WUSCAR] 06146613 (Generated: 04/16/2024 08:43:15) Rev: 1

Contact/Location: STACEY DAVIS - KAEHOU