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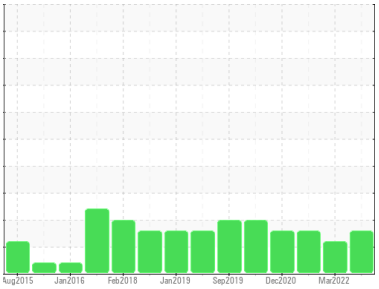
# PROBLEM SUMMARY

**Sample Rating Trend**

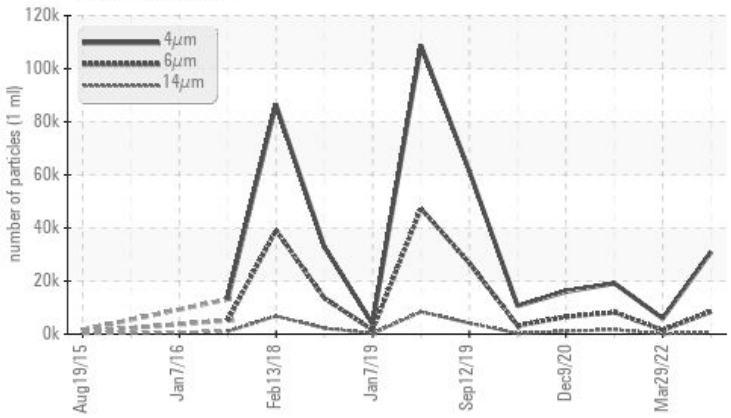



**ISO**

Machine Id
## KAESER ASD 40 4672450 (S/N 1022)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- QTS)**

## COMPONENT CONDITION SUMMARY

▲ Particle Trend




## RECOMMENDATION

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.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ABNORMAL | ATTENTION | ABNORMAL |
|---|---|---|---|---|---|---|
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **8504** | ▲ 1537 | ▲ 8206 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **764** | ▲ 144 | ▲ 1658 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **194** | ▲ 48 | ▲ 540 |
| Oil Cleanliness | | ISO 4406 (c) | >17/13 | ▲ **20/17** | ▲ 18/14 | ▲ 20/18 |

**Customer Id:** LRPDEN
**Sample No.:** KCP40463
**Lab Number:** 05644894
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Angela Borella +1 800-237-1369
angela.borella@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

**29 Mar 2022 Diag: Doug Bogart**

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**

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**09 Sep 2021 Diag: Angela Borella**

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**

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**09 Dec 2020 Diag: Angela Borella**

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**

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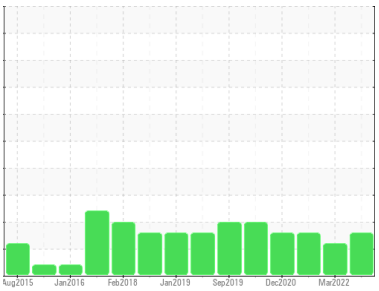
# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## KAESER ASD 40 4672450 (S/N 1022)
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- QTS)**

## DIAGNOSIS

**▲ Recommendation**
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.

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

**▲ Contamination**
There is a high 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 | history 1 | history 2 |
|---|---|---|---|---|---|
| Sample Number | | | **KCP40463** | KCP45301 | KCP42784 |
| Sample Date | | | **08 Sep 2022** | 29 Mar 2022 | 09 Sep 2021 |
| Machine Age | hrs | | **26263** | 25047 | 23581 |
| Oil Age | hrs | | **316** | 0 | 2005 |
| Oil Changed | | | **Not Changd** | Changed | Changed |
| Sample Status | | | **ABNORMAL** | ATTENTION | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **<1** | <1 | 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 | **<1** | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | **1** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | **3** | 2 | 4 |
| Tin | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **0** | <1 | 1 |
| Barium | ppm | ASTM D5185m | 90 | **39** | 55 | 27 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 100 | **56** | 88 | 41 |
| Calcium | ppm | ASTM D5185m | 0 | **<1** | 2 | <1 |
| Phosphorus | ppm | ASTM D5185m | 0 | **3** | 4 | <1 |
| Zinc | ppm | ASTM D5185m | 0 | **6** | 1 | 8 |
| Sulfur | ppm | ASTM D5185m | 23500 | **17777** | 17312 | 17327 |

| CONTAMINANTS | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **<1** | <1 | 0 |
| Sodium | ppm | ASTM D5185m | | **20** | 19 | 15 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 2 | 0 |
| Water | % | ASTM D6304 | >0.05 | **0.015** | 0.008 | 0.016 |
| ppm Water | ppm | ASTM D6304 | >500 | **157.0** | 80.7 | 164.4 |

| FLUID CLEANLINESS | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **30931** | 5921 | 19157 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **8504** | ▲ 1537 | ▲ 8206 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **764** | ▲ 144 | ▲ 1658 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **194** | ▲ 48 | ▲ 540 |
| Particles >38µm | | ASTM D7647 | >4 | **3** | 4 | ▲ 19 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >17/13 | ▲ **20/17** | ▲ 18/14 | ▲ 20/18 |

| FLUID DEGRADATION | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.39** | 0.43 | 0.369 |

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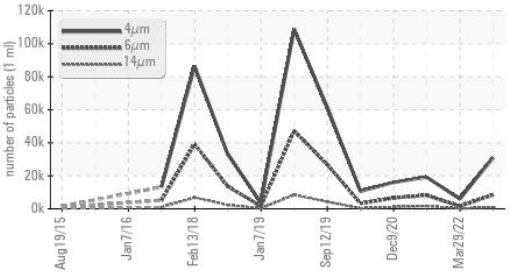
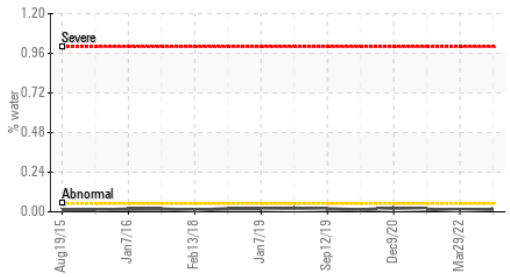
# OIL ANALYSIS REPORT

Particle Trend

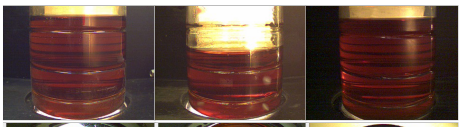



Water



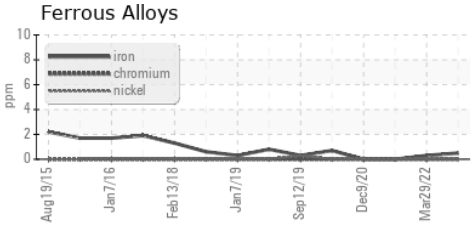

| VISUAL | | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **LIGHT** | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | 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 | history 1 | history 2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 45 | **46.4** | 47.4 | 47.4 |

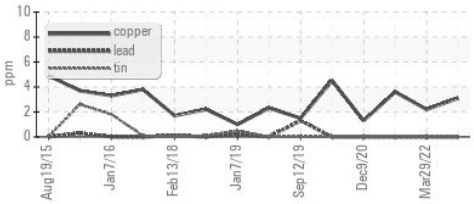
| SAMPLE IMAGES | method | limit/base | current | history 1 | history 2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

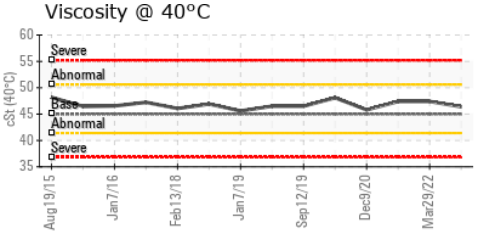
Ferrous Alloys



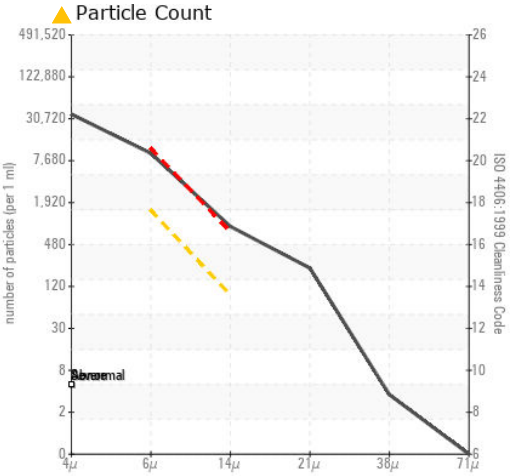

Non-ferrous Metals



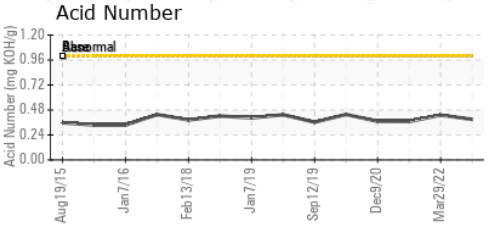

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCP40463 **Received** : 19 Sep 2022
**Lab Number** : 05644894 **Diagnosed** : 20 Sep 2022
**Unique Number** : 10139433 **Diagnostician** : Angela Borella
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**L & R PALLET**
3855 LIMA ST
DENVER, CO
USA 80239
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: