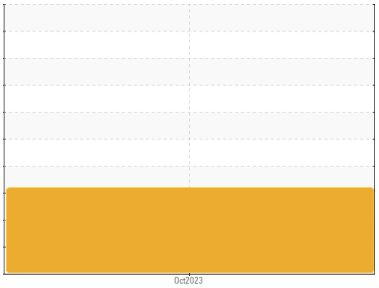
# PROBLEM SUMMARY

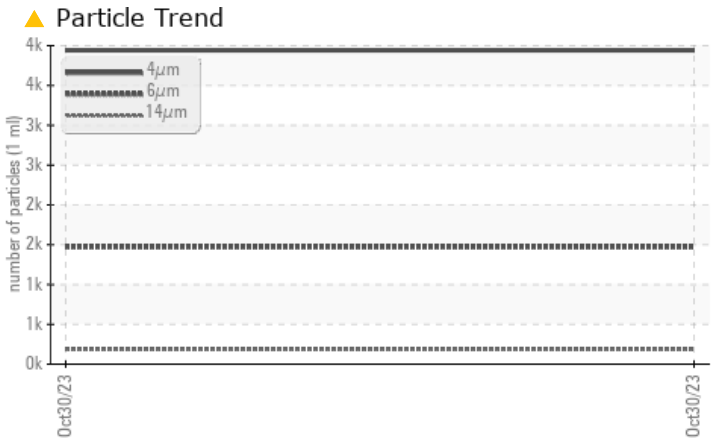
**Sample Rating Trend**

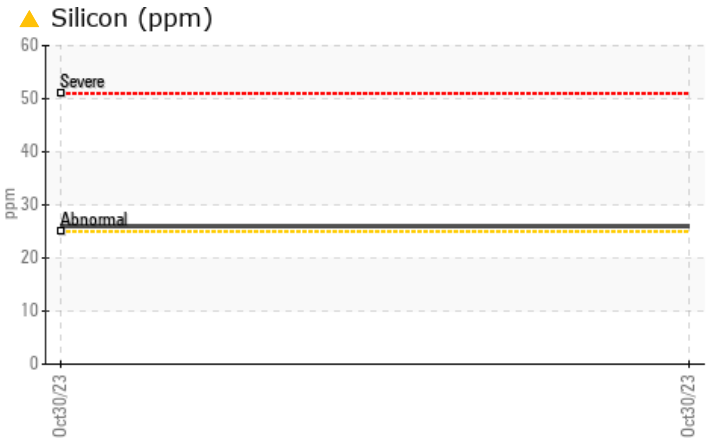


**DIRT**

Machine Id
## KAESER 3178477
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## 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** | --- | --- |
| Silicon | ppm | ASTM D5185m | >25 | ▲ **26** | --- | --- |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **1471** | --- | --- |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **185** | --- | --- |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **43** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **19/18/15** | --- | --- |

**Customer Id:** HANBER
**Sample No.:** KCPA007160
**Lab Number:** 05999892
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Don Baldridge +1
don.b505@comcast.net

*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

KAESER COMPRESSORS
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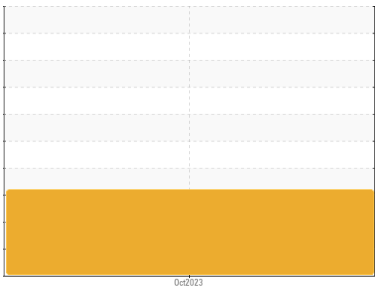
# OIL ANALYSIS REPORT

Sample Rating Trend




**DIRT**

Machine Id
## KAESER 3178477
Component
**Compressor**
Fluid
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## 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. Elemental level of silicon (Si) above normal.

**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 | | **KCPA007160** | --- | --- |
| Sample Date | | Client Info | | **30 Oct 2023** | --- | --- |
| Machine Age | hrs | Client Info | | **9581** | --- | --- |
| Oil Age | hrs | Client Info | | **0** | --- | --- |
| Oil Changed | | Client Info | | **N/A** | --- | --- |
| Sample Status | | | | **ABNORMAL** | --- | --- |

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

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **0** | --- | --- |
| Barium | ppm | ASTM D5185m | 90 | **0** | --- | --- |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | --- | --- |
| Manganese | ppm | ASTM D5185m | | **0** | --- | --- |
| Magnesium | ppm | ASTM D5185m | 100 | **56** | --- | --- |
| Calcium | ppm | ASTM D5185m | 0 | **<1** | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 0 | **<1** | --- | --- |
| Zinc | ppm | ASTM D5185m | 0 | **26** | --- | --- |
| Sulfur | ppm | ASTM D5185m | 23500 | **18806** | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | ▲ **26** | --- | --- |
| Sodium | ppm | ASTM D5185m | | **18** | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | **0** | --- | --- |
| Water | % | ASTM D6304 | >0.05 | **0.016** | --- | --- |
| ppm Water | ppm | ASTM D6304 | >500 | **167.7** | --- | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **3941** | --- | --- |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **1471** | --- | --- |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **185** | --- | --- |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **43** | --- | --- |
| Particles >38µm | | ASTM D7647 | >4 | **1** | --- | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ **19/18/15** | --- | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | **0.33** | --- | --- |

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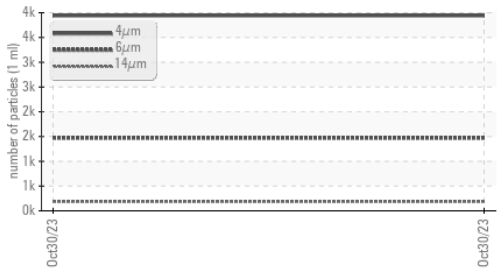
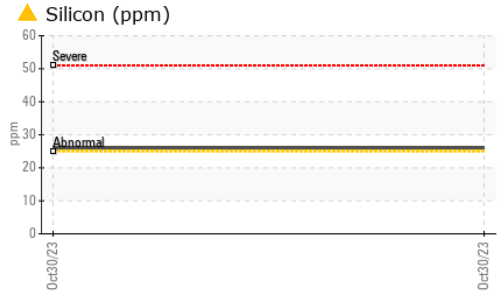
# OIL ANALYSIS REPORT

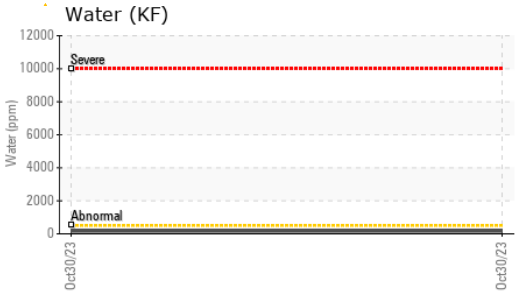
Particle Trend



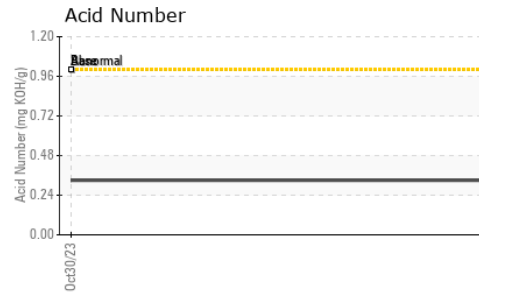

Silicon (ppm)



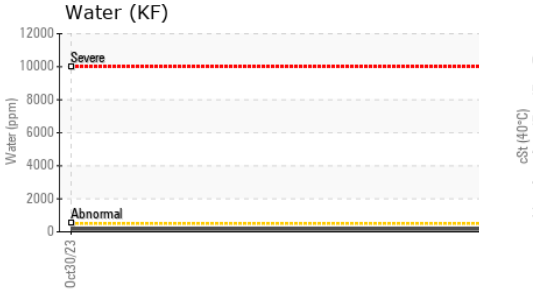

Water (KF)




Acid Number




Water (KF)



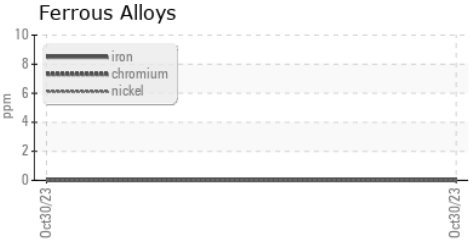

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | --- | --- |
| Silt |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

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 45 | **45.2** | --- | --- |

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

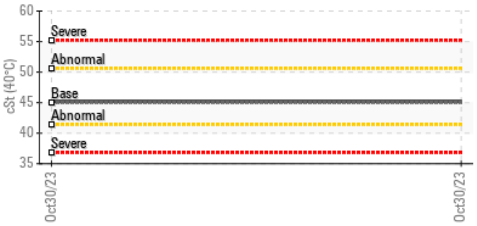
## GRAPHS

Ferrous Alloys

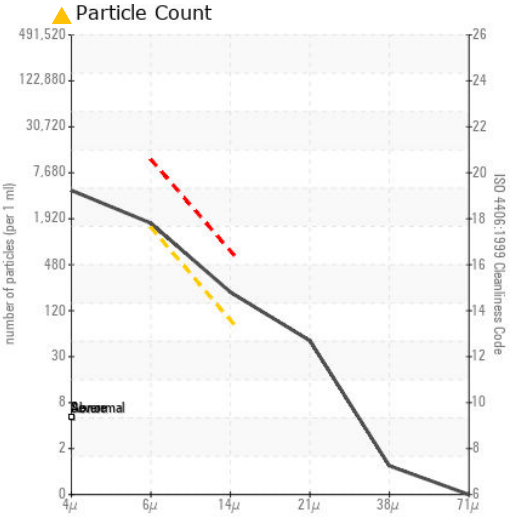



Non-ferrous Metals


Viscosity @ 40°C




Particle Count




Acid Number


**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KCPA007160 **Received** : 06 Nov 2023
**Lab Number** : 05999892 **Diagnosed** : 08 Nov 2023
**Unique Number** : 10728252 **Diagnostician** : Don Baldridge
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

Certificate L2367

*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)*

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