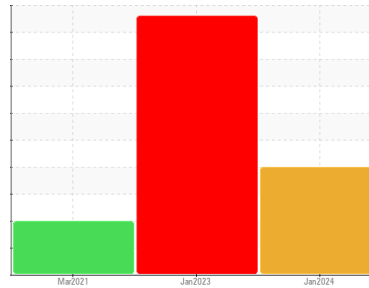


OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
KAESER AIRTOWER 5C 7209719 (S/N 1047)

Component
Compressor

Fluid
KAESER SIGMA (OEM) M-460 (--- GAL)

DIAGNOSIS

Recommendation

The filter change at the time of sampling has been noted. We advise that you stop the unit and follow the water drain-off procedure for this component. We recommend an early resample in 500 hours to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Appearance is hazy. There is a moderate amount of particulates present in the oil. There is a moderate concentration of water present in the oil.

Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | KCPA005387 | KCP54797 | KC74432 |
| Sample Date | Client Info | | 25 Jan 2024 | 24 Jan 2023 | 19 Mar 2021 |
| Machine Age | hrs | Client Info | 1166 | 849 | 310 |
| Oil Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | Changed | Changed |
| Sample Status | | | ABNORMAL | SEVERE | ABNORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >50 | <1 | <1 | <1 |
| 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 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m >10 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m >10 | 0 | <1 | 1 |
| Copper | ppm | ASTM D5185m >50 | 14 | 9 | 1 |
| 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 | history1 | history2 |
|------------|--------|-------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m 0 | 0 | 0 | <1 |
| Barium | ppm | ASTM D5185m 90 | 0 | 0 | 4 |
| Molybdenum | ppm | ASTM D5185m 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m 100 | 29 | 41 | 34 |
| Calcium | ppm | ASTM D5185m 0 | 0 | 8 | 0 |
| Phosphorus | ppm | ASTM D5185m 0 | 0 | 34 | 3 |
| Zinc | ppm | ASTM D5185m 0 | 2 | 8 | 0 |
| Sulfur | ppm | ASTM D5185m 23500 | 17626 | 21830 | 14929 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|----------------|----------|----------|
| Silicon | ppm | ASTM D5185m >25 | <1 | 5 | <1 |
| Sodium | ppm | ASTM D5185m | 3 | 2 | 7 |
| Potassium | ppm | ASTM D5185m >20 | 0 | 0 | 1 |
| Water | % | ASTM D6304 >0.05 | ▲ 0.400 | ▲ 0.165 | ▲ 0.052 |
| ppm Water | ppm | ASTM D6304 >500 | ▲ 4000 | ▲ 1650 | ▲ 525.0 |

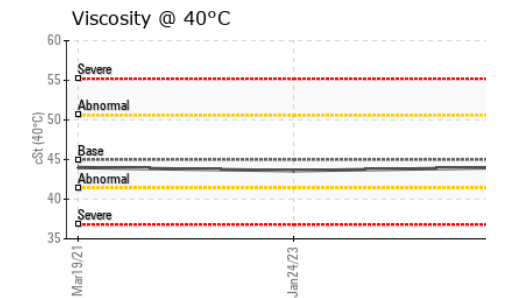
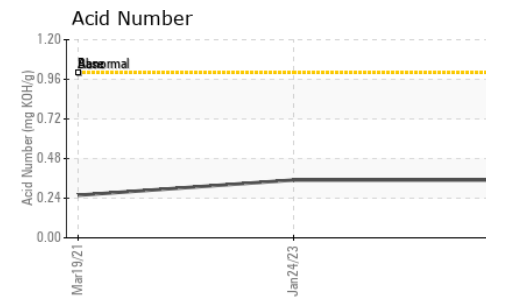
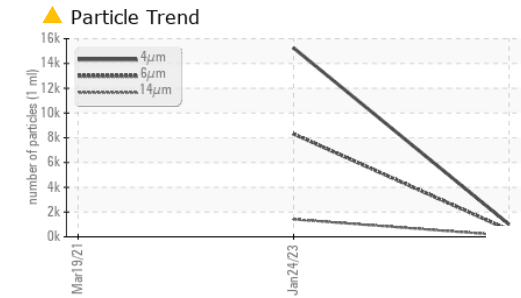
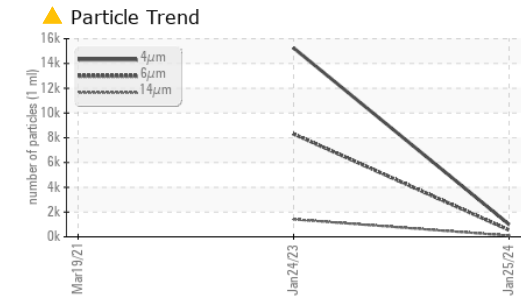
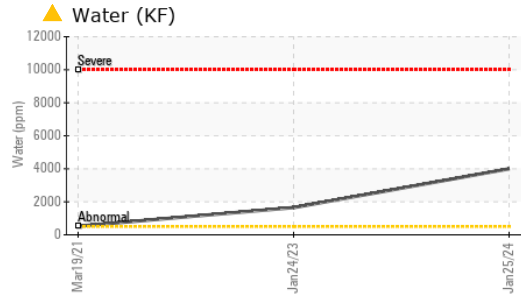
FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|------------|----------|
| Particles >4µm | ASTM D7647 | | 1001 | 15251 | --- |
| Particles >6µm | ASTM D7647 | >1300 | 545 | ▲ 8308 | --- |
| Particles >14µm | ASTM D7647 | >80 | ▲ 93 | ▲ 1414 | --- |
| Particles >21µm | ASTM D7647 | >20 | ▲ 31 | ▲ 476 | --- |
| Particles >38µm | ASTM D7647 | >4 | ▲ 5 | ▲ 74 | --- |
| Particles >71µm | ASTM D7647 | >3 | 0 | ▲ 8 | --- |
| Oil Cleanliness | ISO 4406 (c) | >--/17/13 | ▲ 17/16/14 | ▲ 21/20/18 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 1.0 | 0.35 | 0.35 | 0.258 |

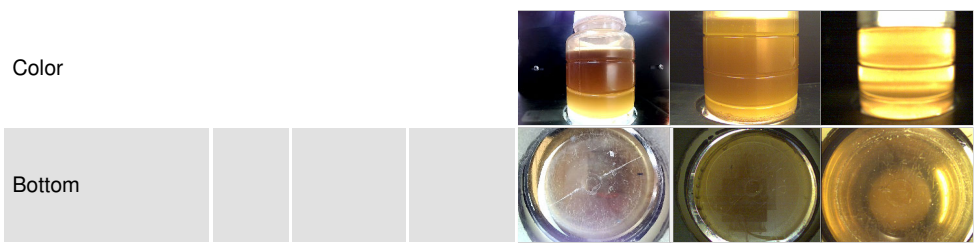
OIL ANALYSIS REPORT



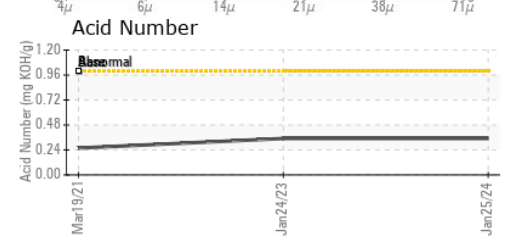
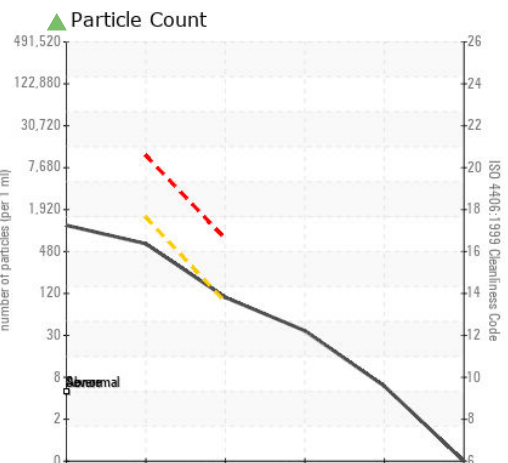
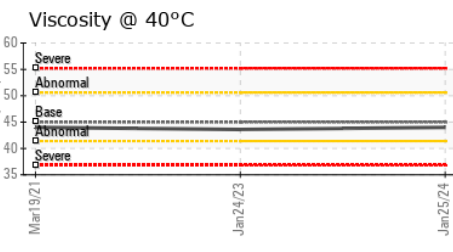
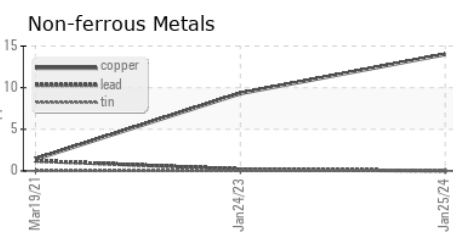
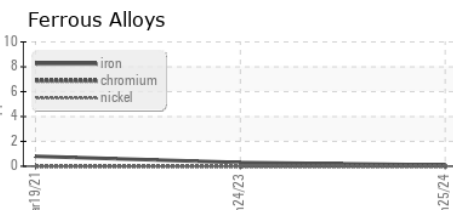
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | LIGHT | ▲ MODER |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | ▲ HAZY | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.05 | 0.2% | NEG |
| Free Water | scalar | *Visual | | 1.0 | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 45 | 44.0 | 43.6 | 44.0 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA005387 **Received** : 30 Jan 2024
Lab Number : 06073932 **Diagnosed** : 02 Feb 2024
Unique Number : 10856023 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: KF, PrtCount)

MATTHEWS SPECIALTY VEHICLES INC
 6343 BURNT POPLAR RD
 GREENSBORO, NC
 US 27409
 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: