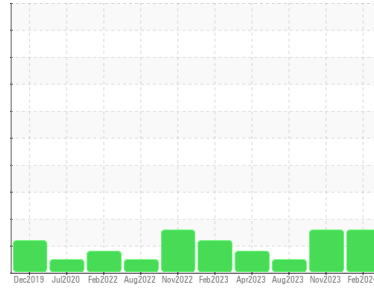




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
6904133 (S/N 1378)

Component
Compressor
Fluid
KAESER SIGMA (OEM) S-460 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. 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 | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | KC121973 | KC121989 | KC106484 |
| Sample Date | Client Info | | | 06 Feb 2024 | 03 Nov 2023 | 22 Aug 2023 |
| Machine Age | hrs | Client Info | | 22050 | 20938 | 20064 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | Client Info | | | N/A | N/A | Changed |
| Sample Status | | | | ABNORMAL | ABNORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|-----------|----------|----------|
| Iron | ppm | ASTM D5185m | >50 | <1 | 0 | 0 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | <1 | <1 | 2 |
| Lead | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | 10 | 9 | 18 |
| Tin | ppm | ASTM D5185m | >10 | <1 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | <1 | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|-----------|----------|----------|
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 90 | 5 | 16 | 0 |
| Molybdenum | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 90 | 23 | 36 | 0 |
| Calcium | ppm | ASTM D5185m | 2 | 0 | 2 | 0 |
| Phosphorus | ppm | ASTM D5185m | | 0 | 1 | 0 |
| Zinc | ppm | ASTM D5185m | | 11 | <1 | 0 |

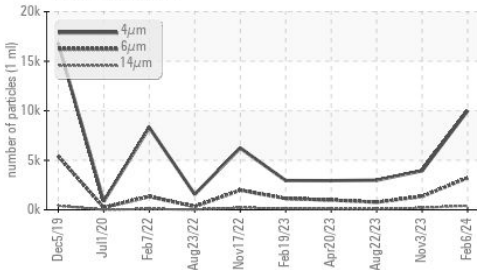
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >25 | <1 | 0 | 0 |
| Sodium | ppm | ASTM D5185m | | 7 | 13 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 3 | 0 |
| Water | % | ASTM D6304 | >0.05 | 0.017 | 0.013 | 0.010 |
| ppm Water | ppm | ASTM D6304 | >500 | 171 | 130.6 | 102.4 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|-------------------|------------|----------|
| Particles >4µm | | ASTM D7647 | | 10007 | 3951 | 2986 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ 3227 | ▲ 1352 | 760 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ 413 | ▲ 194 | 77 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ 67 | ▲ 30 | 15 |
| Particles >38µm | | ASTM D7647 | >4 | 1 | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ▲ 21/19/16 | ▲ 19/18/15 | 19/17/13 |

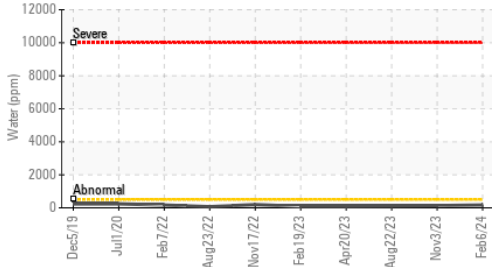
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | 0.31 | 0.28 | 0.30 |

OIL ANALYSIS REPORT

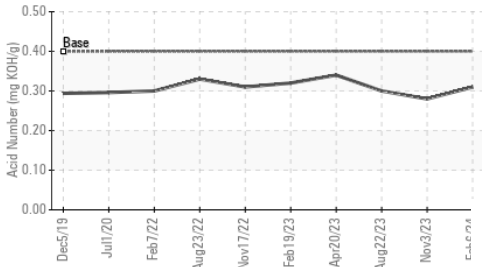
▲ Particle Trend



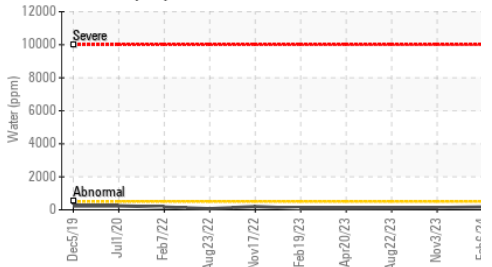
Water (KF)



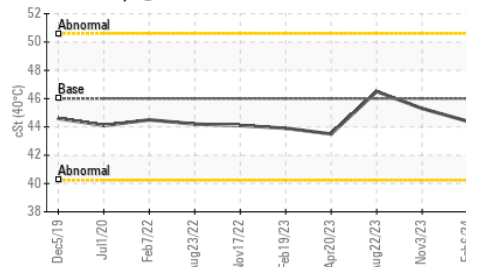
Acid Number



Water (KF)



Viscosity @ 40°C



| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | LIGHT |
| 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 | 46 | 44.4 | 45.3 |

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

Color

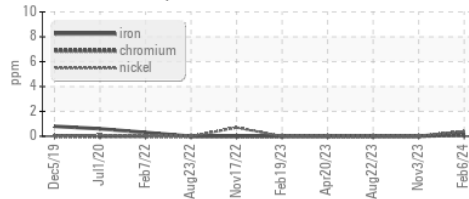


Bottom

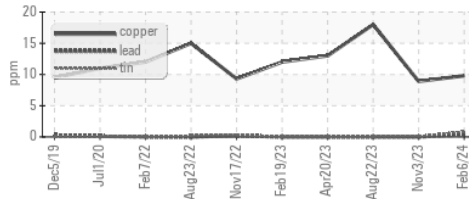


GRAPHS

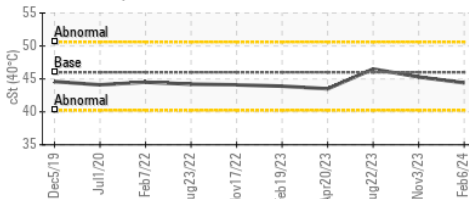
Ferrous Alloys



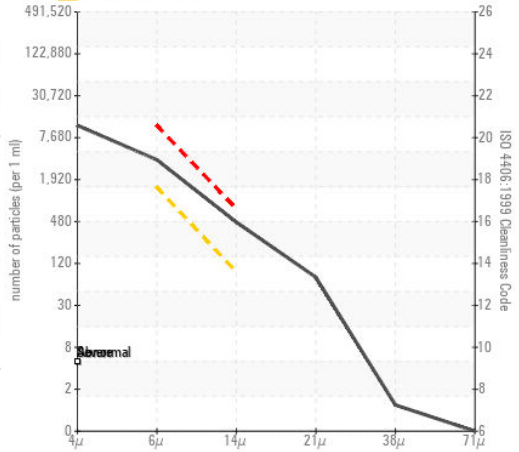
Non-ferrous Metals



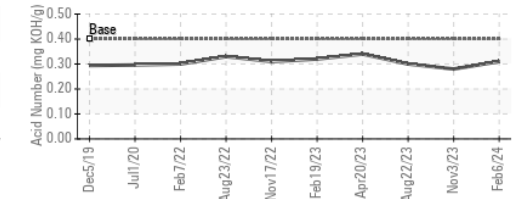
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : KC121973
 Lab Number : 06098421
 Unique Number : 10896651
 Test Package : IND 2
 Received : 23 Feb 2024
 Tested : 26 Feb 2024
 Diagnosed : 26 Feb 2024 - Don Baldrige

RR DONNELLEY
 9125 BACHMAN RD
 ORLANDO, FL
 US 32824
 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: