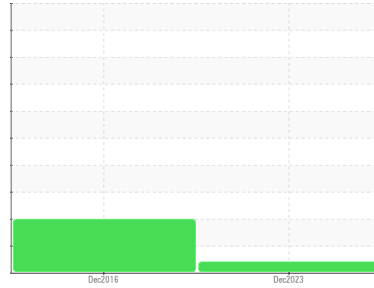




OIL ANALYSIS REPORT

Sample Rating Trend



VIS DEBRIS



Machine Id
KAESER 2257676 (S/N 1030)

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. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear

All component wear rates are normal.

▲ Contamination

High concentration of visible dirt/debris 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 | | KC111957 | KCP59084 | --- |
| Sample Date | Client Info | | 18 Dec 2023 | 13 Dec 2016 | --- |
| Machine Age | hrs | Client Info | 42153 | 26211 | --- |
| Oil Age | hrs | Client Info | 42153 | 2000 | --- |
| Oil Changed | Client Info | | Not Chngd | Not Chngd | --- |
| Sample Status | | | ABNORMAL | ABNORMAL | --- |

WEAR METALS

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

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-----------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m 0 | 0 | <1 | --- |
| Barium | ppm | ASTM D5185m 90 | 1 | 7 | --- |
| Molybdenum | ppm | ASTM D5185m 0 | 0 | 0 | --- |
| Manganese | ppm | ASTM D5185m | <1 | <1 | --- |
| Magnesium | ppm | ASTM D5185m 100 | 39 | 49 | --- |
| Calcium | ppm | ASTM D5185m 0 | 10 | <1 | --- |
| Phosphorus | ppm | ASTM D5185m 0 | 4 | 2 | --- |
| Zinc | ppm | ASTM D5185m 0 | 18 | 62 | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >25 | 4 | 3 | --- |
| Sodium | ppm | ASTM D5185m | 11 | 15 | --- |
| Potassium | ppm | ASTM D5185m >20 | 3 | 4 | --- |
| Water | % | ASTM D6304 >0.05 | 0.021 | 0.012 | --- |
| ppm Water | ppm | ASTM D6304 >500 | 216 | 120 | --- |

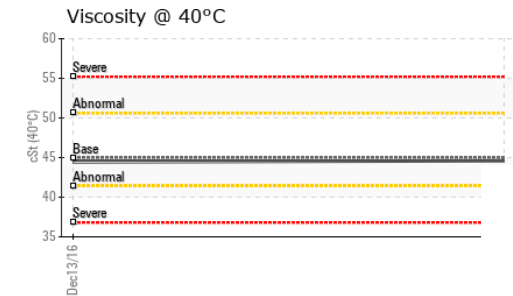
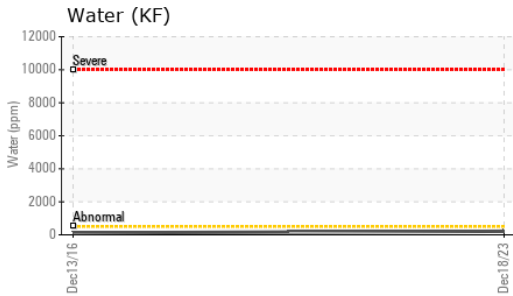
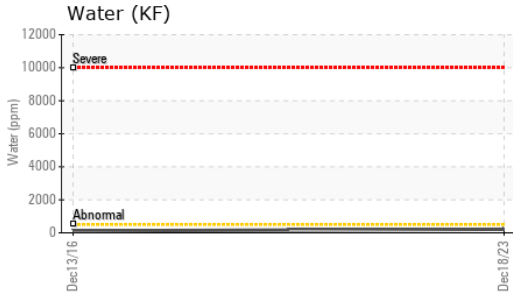
FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|------------|----------|----------|
| Particles >4µm | ASTM D7647 | | --- | 4154 | --- |
| Particles >6µm | ASTM D7647 | >1300 | --- | ▲ 2262 | --- |
| Particles >14µm | ASTM D7647 | >80 | --- | ▲ 385 | --- |
| Particles >21µm | ASTM D7647 | >20 | --- | ▲ 130 | --- |
| Particles >38µm | ASTM D7647 | >4 | --- | ▲ 20 | --- |
| Particles >71µm | ASTM D7647 | >3 | --- | 2 | --- |
| Oil Cleanliness | ISO 4406 (c) | >17/13 | --- | ▲ 18/16 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 1.0 | 0.31 | 0.293 | --- |

OIL ANALYSIS REPORT



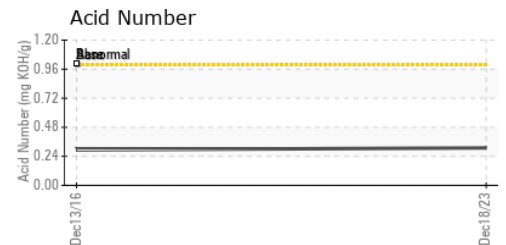
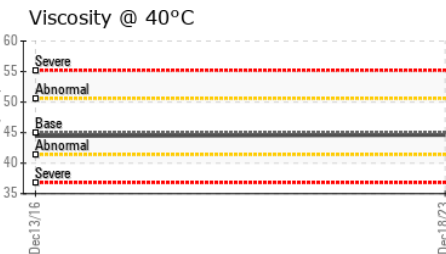
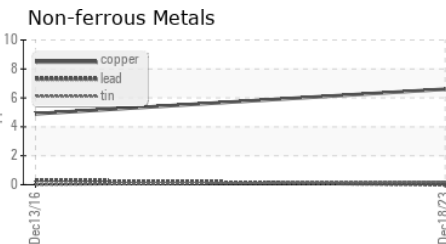
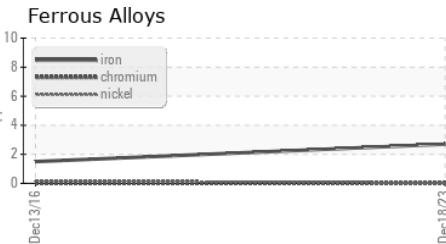
| VISUAL | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|----------------|----------|-----|
| White Metal | scalar | *Visual | NONE | NONE | LIGHT | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | --- |
| Silt | scalar | *Visual | NONE | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | ▲ HEAVY | 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 | 45 | 44.6 | 44.44 | --- |

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

| | | | |
|--------|--|--|----------|
| Color | | | no image |
| Bottom | | | no image |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KC111957 **Received** : 10 Jan 2024
Lab Number : 06056741 **Diagnosed** : 11 Jan 2024
Unique Number : 10822690 **Diagnostician** : Doug Bogart
Test Package : IND 2

PAR-KUT INTERNATIONAL
 40961 PRODUCTION DR
 HARRISON TOWNSHIP, MI
 US 48045
 Contact:

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: