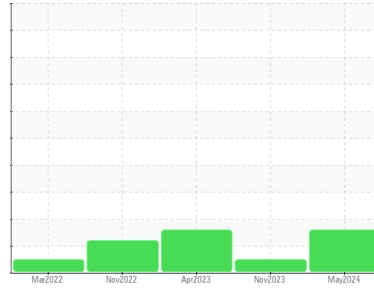




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id

KAESER 7909166

Component

Compressor

Fluid

KAESER SIGMA (OEM) S-460 (--- GAL)

DIAGNOSIS

Recommendation

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 | history1 | history2 |
|---------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | KCPA016412 | KCPA011649 | KCPA001149 |
| Sample Date | Client Info | 02 May 2024 | 21 Nov 2023 | 17 Apr 2023 |
| Machine Age | hrs | 9435 | 8006 | 4700 |
| Oil Age | hrs | 1429 | 0 | 0 |
| Oil Changed | Client Info | Not Chngd | N/A | N/A |
| Sample Status | | ABNORMAL | NORMAL | ABNORMAL |

WEAR METALS

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

ADDITIVES

| method | limit/base | current | history1 | history2 | |
|------------|------------|----------------|--------------|----------|-------|
| Boron | ppm | ASTM D5185m | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m 90 | 66 | 60 | 74 |
| Molybdenum | ppm | ASTM D5185m | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m 90 | 76 | 87 | 88 |
| Calcium | ppm | ASTM D5185m 2 | 4 | 3 | 3 |
| Phosphorus | ppm | ASTM D5185m | 20 | 0 | <1 |
| Zinc | ppm | ASTM D5185m | 2 | 0 | 1 |
| Sulfur | ppm | ASTM D5185m | 20074 | 22097 | 22147 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | |
|-----------|------------|------------------|--------------|----------|-------|
| Silicon | ppm | ASTM D5185m >25 | <1 | <1 | 0 |
| Sodium | ppm | ASTM D5185m | 15 | 12 | 16 |
| Potassium | ppm | ASTM D5185m >20 | 1 | 3 | <1 |
| Water | % | ASTM D6304 >0.05 | 0.028 | 0.027 | 0.026 |
| ppm Water | ppm | ASTM D6304 >500 | 287 | 279 | 265.2 |

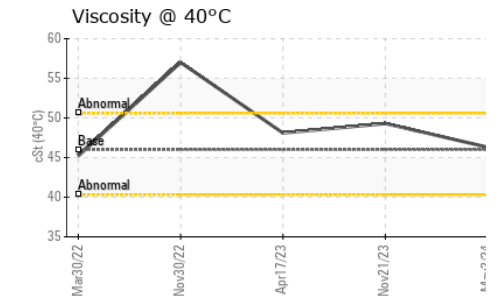
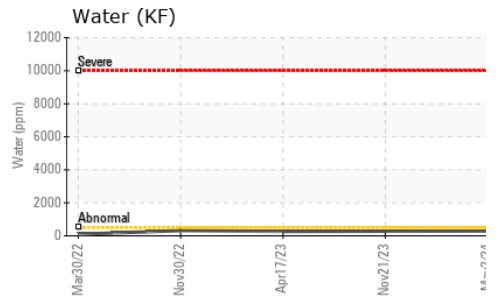
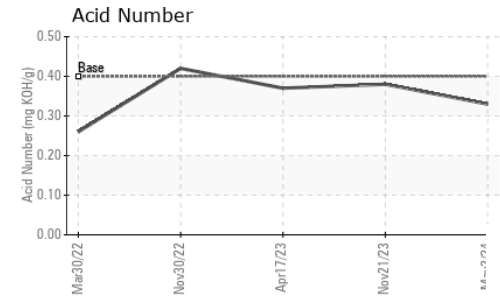
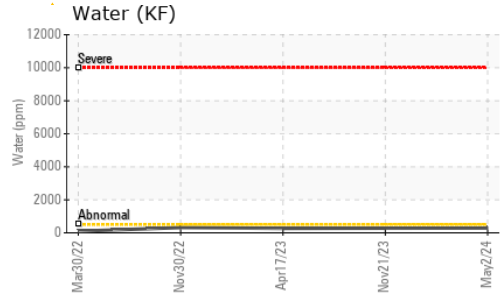
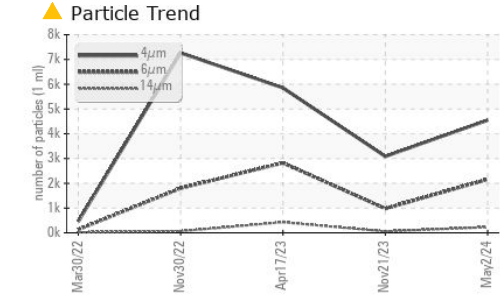
FLUID CLEANLINESS

| method | limit/base | current | history1 | history2 |
|-----------------|------------------------|-------------------|----------|------------|
| Particles >4µm | ASTM D7647 | 4549 | 3086 | 5853 |
| Particles >6µm | ASTM D7647 >1300 | ▲ 2161 | 978 | ▲ 2823 |
| Particles >14µm | ASTM D7647 >80 | ▲ 227 | 56 | ▲ 427 |
| Particles >21µm | ASTM D7647 >20 | ▲ 48 | 8 | ▲ 106 |
| Particles >38µm | ASTM D7647 >4 | 1 | 0 | 3 |
| Particles >71µm | ASTM D7647 >3 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) >--/17/13 | ▲ 19/18/15 | 19/17/13 | ▲ 20/19/16 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|------------------|------------|----------------|-------------|----------|------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.4 | 0.33 | 0.38 | 0.37 |

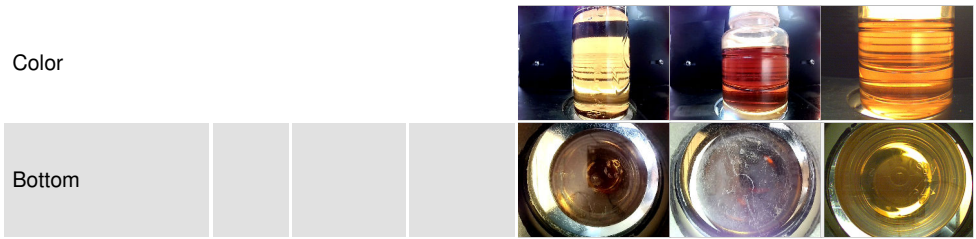
OIL ANALYSIS REPORT



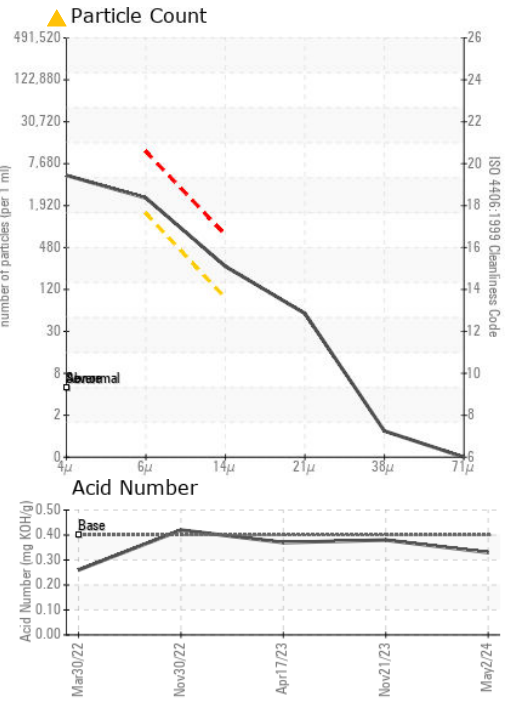
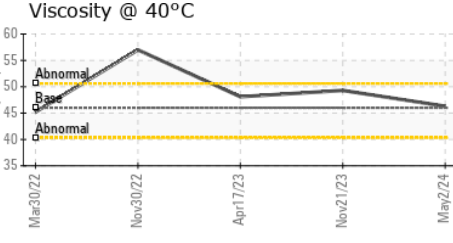
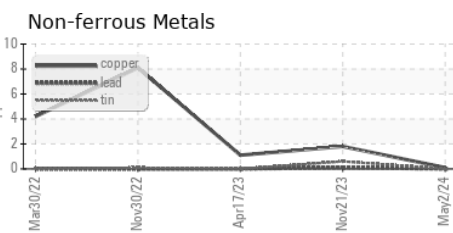
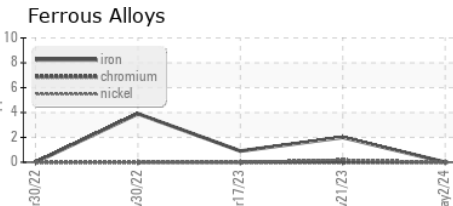
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE |
| 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 | 46.3 | 49.3 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA016412 **Received** : 06 Jun 2024
Lab Number : 06202010 **Tested** : 11 Jun 2024
Unique Number : 11069471 **Diagnosed** : 11 Jun 2024 - Jonathan Hester
Test Package : IND 2 (Additional Tests: KF, PrtCount)

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 dubler@amazon.com

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)