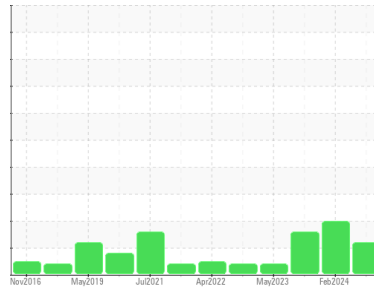




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
KAESER CSD 12S 5680134 (S/N 2442)
 Component
Compressor
 Fluid
KAESER SIGMA (OEM) S-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 moderate 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 | | | KCPA017789 | KCPA013641 | KCPA006113 |
| Sample Date | Client Info | | | 20 May 2024 | 28 Feb 2024 | 26 Sep 2023 |
| Machine Age | hrs | Client Info | | 0 | 53682 | 50137 |
| Oil Age | hrs | Client Info | | 1442 | 3548 | 0 |
| Oil Changed | Client Info | | | Not Chngd | Not Chngd | N/A |
| Sample Status | | | | ATTENTION | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m | >50 | 0 | 0 | 0 |
| 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 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | 14 | 13 | 21 |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |

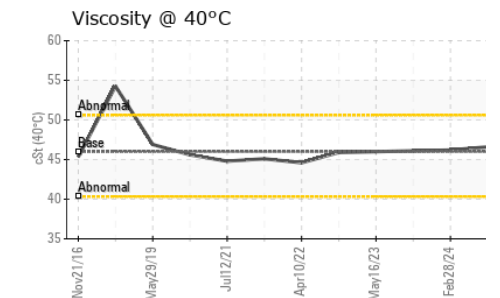
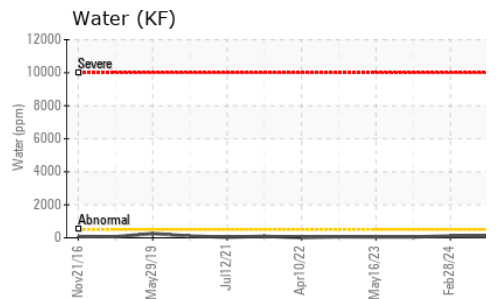
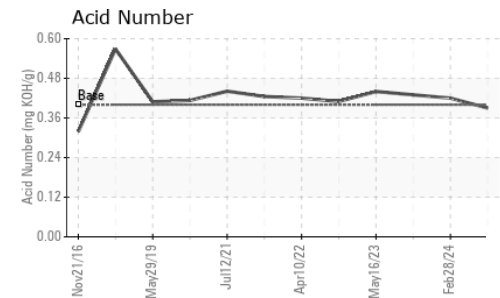
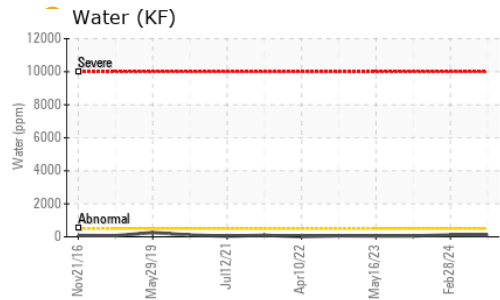
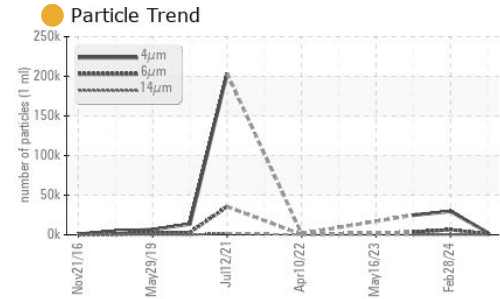
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 90 | 0 | 4 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 90 | 6 | 9 | 4 |
| Calcium | ppm | ASTM D5185m | 2 | 0 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | | <1 | 2 | 4 |
| Zinc | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | | 19379 | 17179 | 14684 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >25 | <1 | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | 5 | 10 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 1 | 1 |
| Water | % | ASTM D6304 | >0.05 | 0.008 | 0.011 | 0.005 |
| ppm Water | ppm | ASTM D6304 | >500 | 87 | 113 | 53.8 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|-------------------|------------|------------|
| Particles >4µm | | ASTM D7647 | | 2851 | 29617 | 24818 |
| Particles >6µm | | ASTM D7647 | >1300 | 1008 | ▲ 6448 | ▲ 3387 |
| Particles >14µm | | ASTM D7647 | >80 | ● 134 | ▲ 380 | ▲ 97 |
| Particles >21µm | | ASTM D7647 | >20 | ● 31 | ▲ 100 | ▲ 24 |
| Particles >38µm | | ASTM D7647 | >4 | 1 | ▲ 6 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/13 | ● 19/17/14 | ▲ 22/20/16 | ▲ 22/19/14 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | 0.39 | 0.42 | 0.43 |

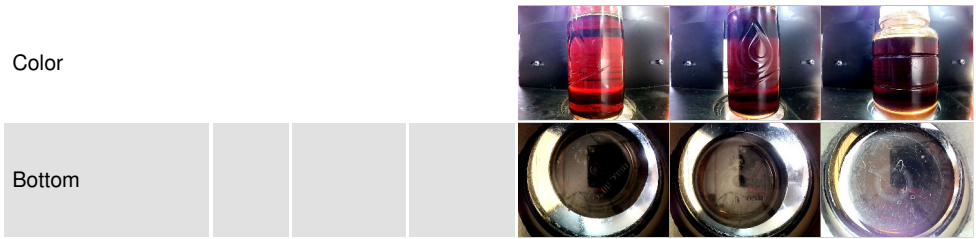
OIL ANALYSIS REPORT



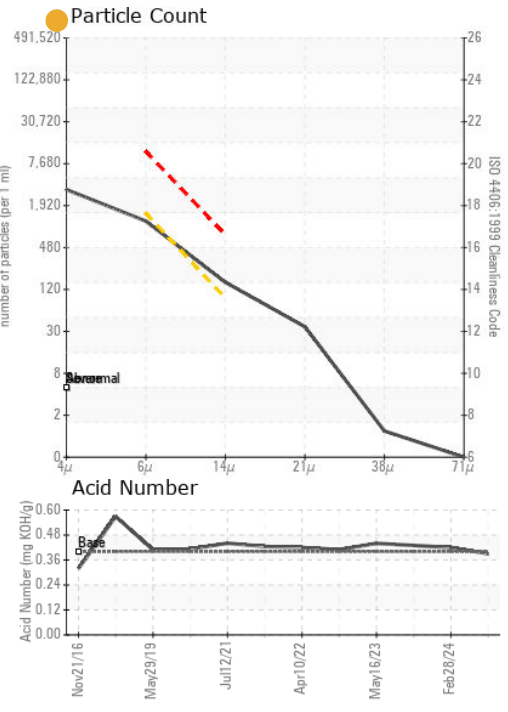
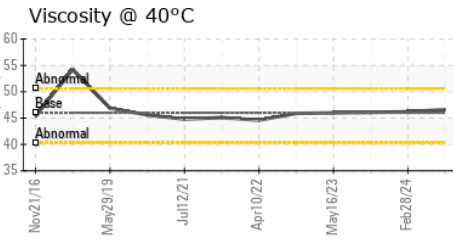
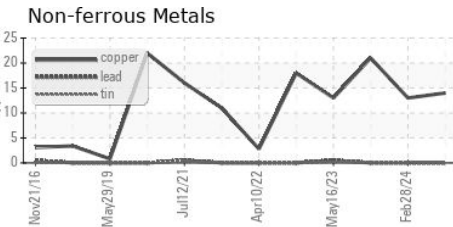
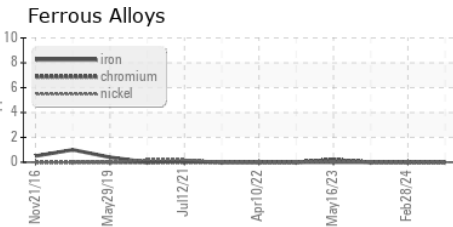
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | 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 | 46.6 | 46.2 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA017789
Lab Number : 06205445
Unique Number : 11072906
Test Package : IND 2 (Additional Tests: KF, PrtCount)
Received : 10 Jun 2024
Tested : 12 Jun 2024
Diagnosed : 13 Jun 2024 - Don Baldrige

AXIUM PLASTICS
 9005 SMITHS MILL RD
 NEW ALBANY, OH
 US 43054
 Contact: P. LONGIA
 plongia@axiumplastics.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)