



OIL ANALYSIS REPORT

| | |
|-----------------|--------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Area
SAP-321503 - PPG SPRINGDALE
 Machine Id
KAESER 1345 - PPG SPRINGDALE
 Component
Compressor
 Fluid
KAESER SIGMA (OEM) S-460 (15 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|-------------|-------------|
| Sample Number | | Client Info | | APC0000539 | APC0000669 | APC0000540 |
| Sample Date | | Client Info | | 20 Jun 2024 | 18 Mar 2024 | 12 Oct 2023 |
| Machine Age | hrs | Client Info | | 33683 | 31429 | 27644 |
| Oil Age | hrs | Client Info | | 7924 | 5670 | 1885 |
| Filter Age | hrs | Client Info | | 2254 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | ATTENTION | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|------|------|
| Iron | ppm | ASTM D5185m | >50 | 0 | 0 | 0 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >3 | 0 | 0 | 2 |
| Titanium | ppm | ASTM D5185m | >3 | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 0 | 0 | 2 |
| Lead | ppm | ASTM D5185m | >10 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >50 | 14 | 7 | 8 |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

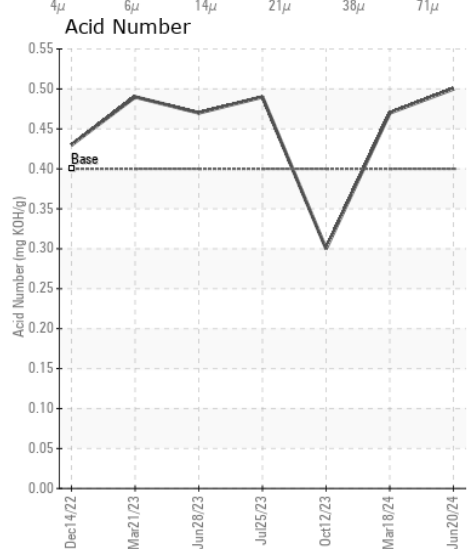
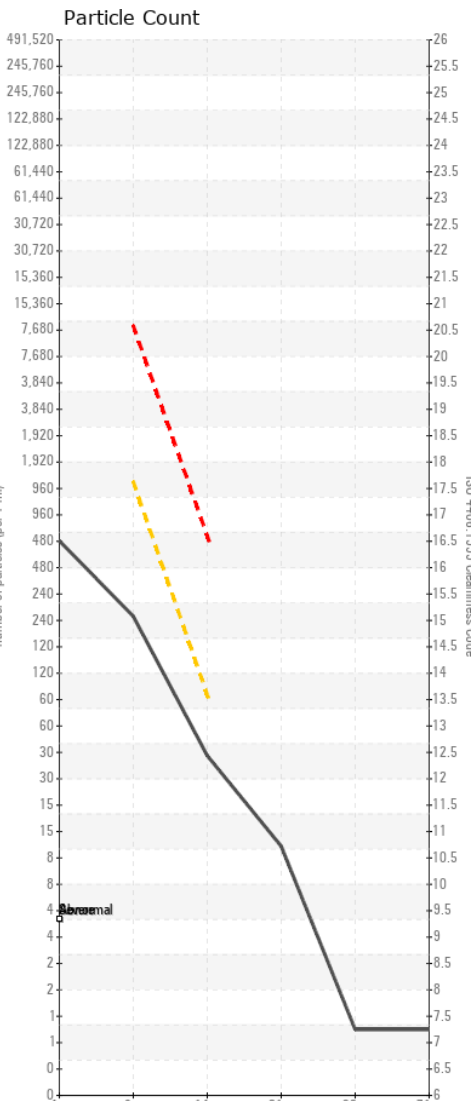
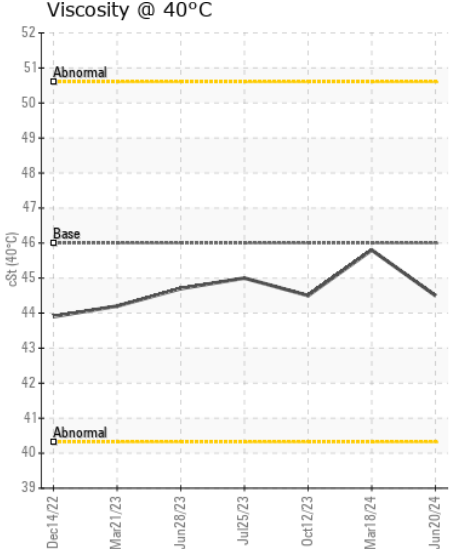
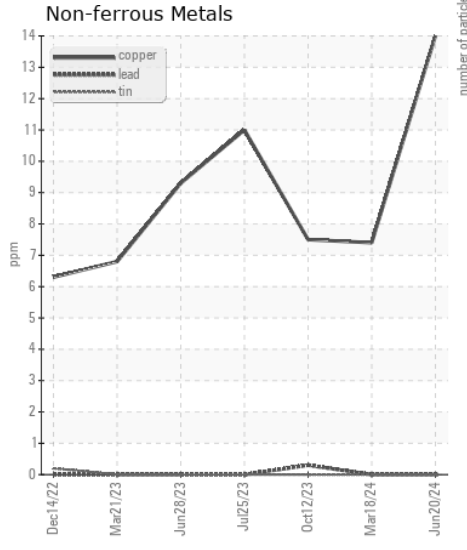
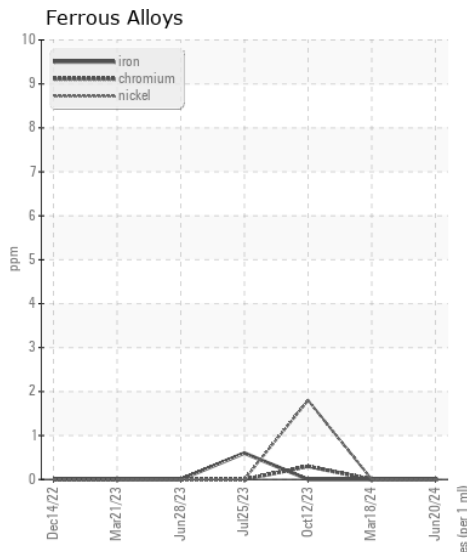
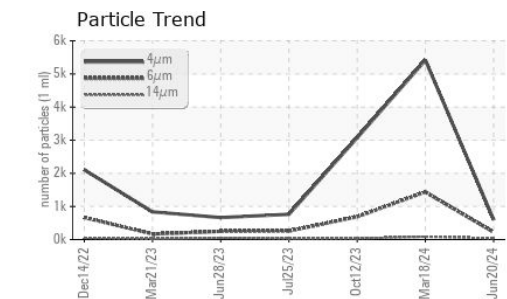
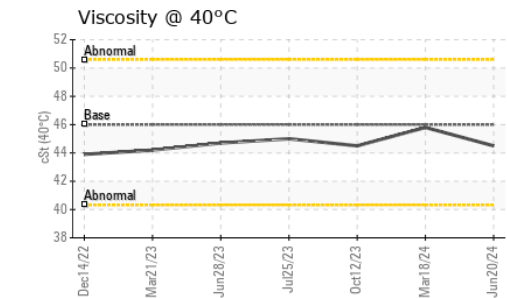
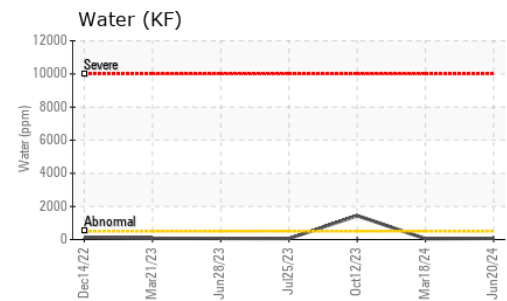
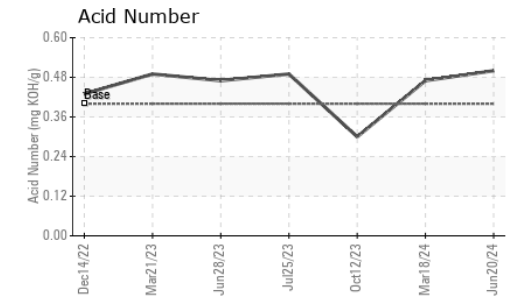
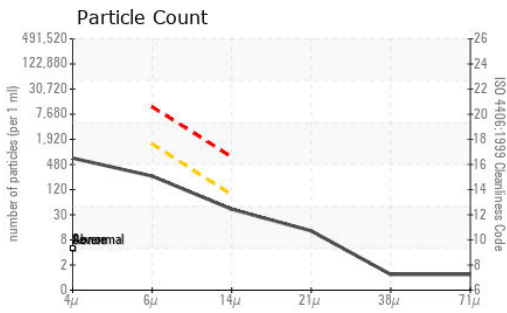
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

| | | | | | | |
|------------------|--------|--------------|----------|----------|----------|----------|
| Silicon | ppm | ASTM D5185m | >25 | 0 | <1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | 1 |
| Water | % | ASTM D6304 | >0.05 | 0.007 | 0.005 | 0.144 |
| ppm Water | ppm | ASTM D6304 | >500 | 71 | 55 | 1440 |
| Particles >4µm | | ASTM D7647 | | 599 | 5414 | 3073 |
| Particles >6µm | | ASTM D7647 | >1300 | 223 | 1437 | 686 |
| Particles >14µm | | ASTM D7647 | >80 | 36 | 85 | 32 |
| Particles >21µm | | ASTM D7647 | >20 | 11 | 19 | 5 |
| Particles >38µm | | ASTM D7647 | >4 | 1 | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 1 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | ~-/17/13 | 16/15/12 | 20/18/14 | 19/17/12 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.05 | NEG | NEG | 0.2% |

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|-----|-------|-------|-------|
| Sodium | ppm | ASTM D5185m | | 2 | 0 | 0 |
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 90 | 0 | 0 | 10 |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 90 | 0 | 0 | <1 |
| Calcium | ppm | ASTM D5185m | 2 | <1 | <1 | <1 |
| Phosphorus | ppm | ASTM D5185m | | 2 | 6 | 27 |
| Zinc | ppm | ASTM D5185m | | 0 | 13 | 12 |
| Sulfur | ppm | ASTM D5185m | | 15651 | 18453 | 17745 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.4 | 0.50 | 0.47 | 0.30 |
| Visc @ 40°C | cSt | ASTM D445 | 46 | 44.5 | 45.8 | 44.5 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : APC0000539 **Received** : 12 Jul 2024
Lab Number : 06234948 **Tested** : 15 Jul 2024
Unique Number : 11123782 **Diagnosed** : 15 Jul 2024 - Don Baldridge
Test Package : IND 2 (Additional Tests: KF, PrtCount)

AIR PRODUCTS AND CHEMICALS INC - ALLENTOWN
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 ALLENTOWN, PA
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 protzema@airproducts.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)