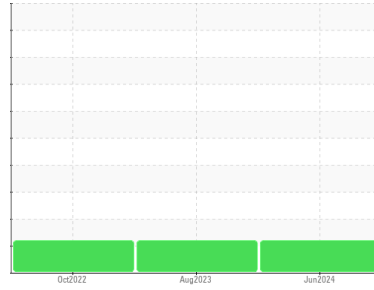




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id  
**7236549 (S/N 1338)**  
 Component  
**Compressor**  
 Fluid  
**KAESER SIGMA (OEM) S-460 (--- QTS)**

## DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. 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 |             |            | <b>KCPA012285</b>  | KCPA000745  | KCP47831D   |
| Sample Date        | Client Info |             |            | <b>11 Jun 2024</b> | 25 Aug 2023 | 27 Oct 2022 |
| Machine Age        | hrs         | Client Info |            | <b>19530</b>       | 14887       | 10404       |
| Oil Age            | hrs         | Client Info |            | <b>8000</b>        | 0           | 5400        |
| Oil Changed        | Client Info |             |            | <b>Changed</b>     | N/A         | Changed     |
| Sample Status      |             |             |            | <b>ABNORMAL</b>    | ATTENTION   | ABNORMAL    |

| WEAR METALS |     | method      | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|---------|----------|----------|
| Iron        | ppm | ASTM D5185m | >50        | <1      | 0        | 1        |
| Chromium    | ppm | ASTM D5185m | >10        | 0       | 0        | 0        |
| Nickel      | ppm | ASTM D5185m | >3         | 0       | <1       | <1       |
| Titanium    | ppm | ASTM D5185m | >3         | <1      | 0        | <1       |
| Silver      | ppm | ASTM D5185m | >2         | 0       | 0        | 1        |
| Aluminum    | ppm | ASTM D5185m | >10        | <1      | 0        | 1        |
| Lead        | ppm | ASTM D5185m | >10        | 0       | <1       | 0        |
| Copper      | ppm | ASTM D5185m | >50        | 6       | 8        | 17       |
| Tin         | ppm | ASTM D5185m | >10        | 0       | <1       | <1       |
| Vanadium    | ppm | ASTM D5185m |            | <1      | 0        | <1       |
| Cadmium     | ppm | ASTM D5185m |            | 0       | 0        | <1       |

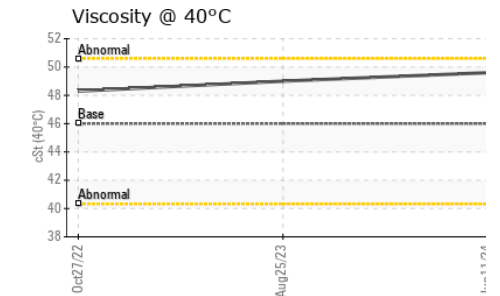
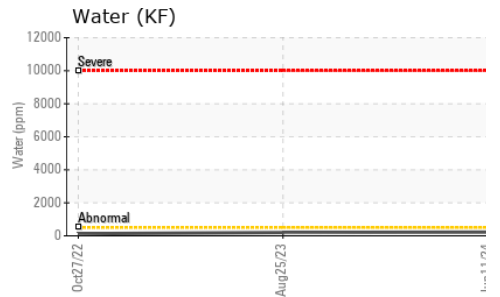
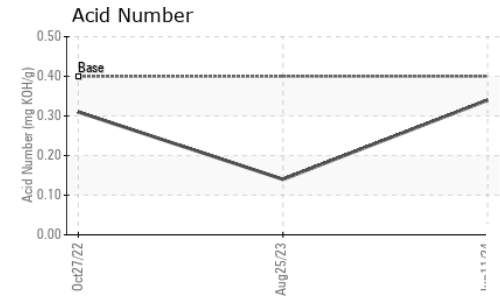
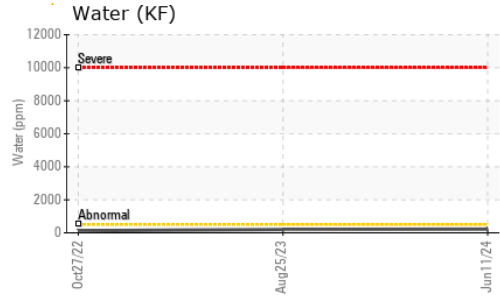
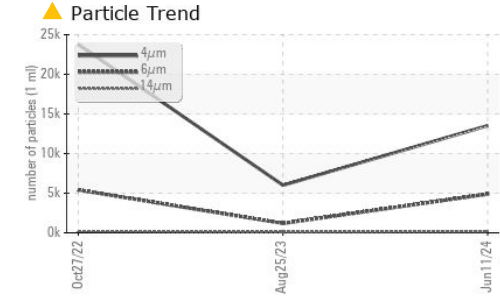
| ADDITIVES  |     | method      | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|---------|----------|----------|
| Boron      | ppm | ASTM D5185m |            | 0       | 0        | 0        |
| Barium     | ppm | ASTM D5185m | 90         | 17      | 22       | 0        |
| Molybdenum | ppm | ASTM D5185m |            | 0       | 0        | <1       |
| Manganese  | ppm | ASTM D5185m |            | 2       | <1       | 2        |
| Magnesium  | ppm | ASTM D5185m | 90         | 43      | 60       | 37       |
| Calcium    | ppm | ASTM D5185m | 2          | 0       | 0        | 0        |
| Phosphorus | ppm | ASTM D5185m |            | 1       | 2        | 3        |
| Zinc       | ppm | ASTM D5185m |            | 22      | 20       | 21       |
| Sulfur     | ppm | ASTM D5185m |            | 21932   | 23713    | 22028    |

| CONTAMINANTS |     | method      | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|---------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >25        | <1      | <1       | 1        |
| Sodium       | ppm | ASTM D5185m |            | 11      | 30       | 24       |
| Potassium    | ppm | ASTM D5185m | >20        | 2       | 10       | 12       |
| Water        | %   | ASTM D6304  | >0.05      | 0.022   | 0.020    | 0.012    |
| ppm Water    | ppm | ASTM D6304  | >500       | 222     | 204.0    | 128.3    |

| FLUID CLEANLINESS |  | method       | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|---------|----------|----------|
| Particles >4µm    |  | ASTM D7647   |            | 13529   | 6005     | 23788    |
| Particles >6µm    |  | ASTM D7647   | >1300      | ▲ 4884  | 1190     | ▲ 5407   |
| Particles >14µm   |  | ASTM D7647   | >80        | ▲ 159   | ● 81     | ▲ 204    |
| Particles >21µm   |  | ASTM D7647   | >20        | 19      | ● 21     | 20       |
| Particles >38µm   |  | ASTM D7647   | >4         | 0       | 1        | 0        |
| Particles >71µm   |  | ASTM D7647   | >3         | 0       | 0        | 0        |
| Oil Cleanliness   |  | ISO 4406 (c) | >17/13     | ▲ 19/14 | ● 17/14  | ▲ 20/15  |

| FLUID DEGRADATION |          | method     | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|---------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 | 0.4        | 0.34    | 0.14     | 0.31     |

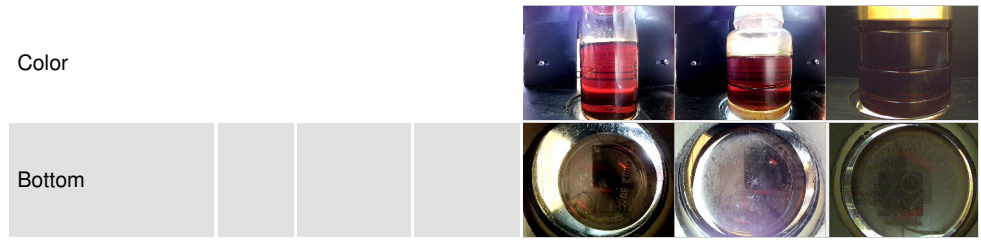
# OIL ANALYSIS REPORT



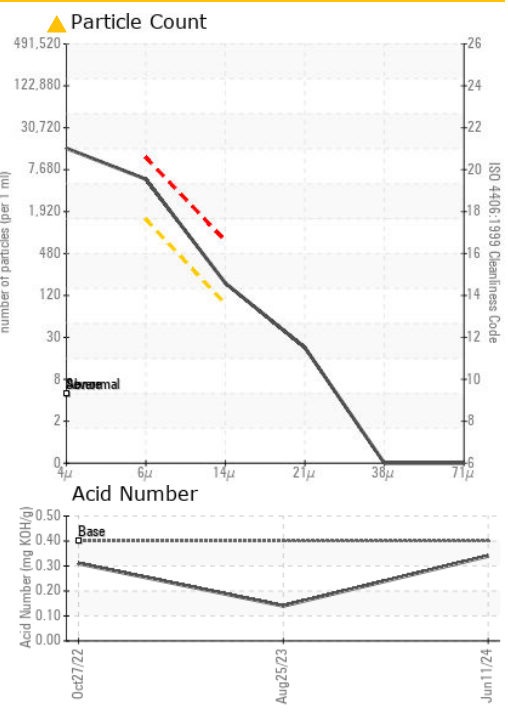
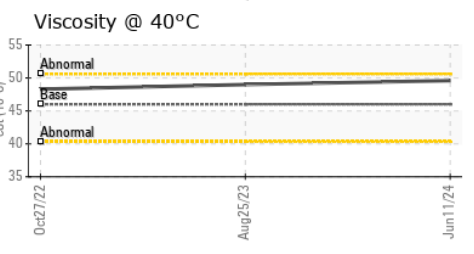
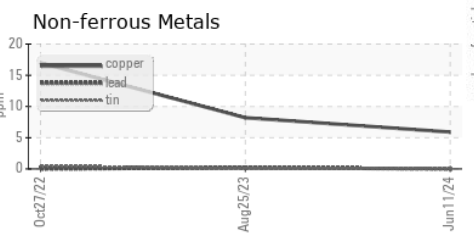
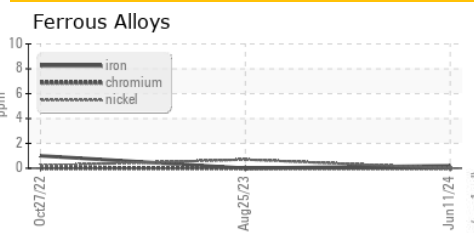
| PARAMETER        | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | VLITE    |
| 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      | 49.6     | 49.0     |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCPA012285 **Received** : 17 Jun 2024  
**Lab Number** : 06212412 **Tested** : 19 Jun 2024  
**Unique Number** : 11085276 **Diagnosed** : 19 Jun 2024 - Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**UNIPRES**  
 990 DUNCAN FARMS RD  
 STEELE, AL  
 US 35987  
 Contact: BRETT SHIELDS  
 brett.shields@unipres.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)