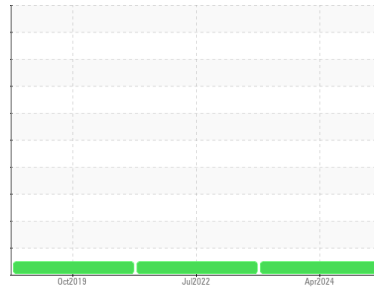




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**KAESER DS 241 1566849 (S/N 1001)**  
 Component  
**Compressor**  
 Fluid  
**KAESER SIGMA (OEM) S-460 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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>KC101534</b>    | KC85799     | KC83642     |
| Sample Date        | Client Info |             |            | <b>01 Apr 2024</b> | 18 Jul 2022 | 31 Oct 2019 |
| Machine Age        | hrs         | Client Info |            | <b>182083</b>      | 167392      | 144521      |
| Oil Age            | hrs         | Client Info |            | <b>10000</b>       | 10000       | 9000        |
| Oil Changed        | Client Info |             |            | <b>Changed</b>     | Changed     | Changed     |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | NORMAL      |

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

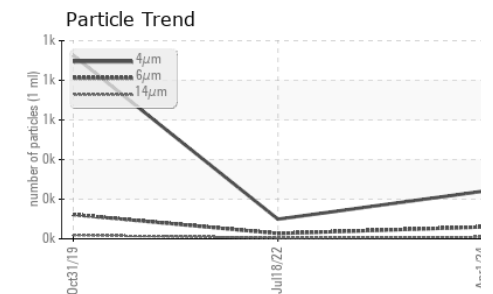
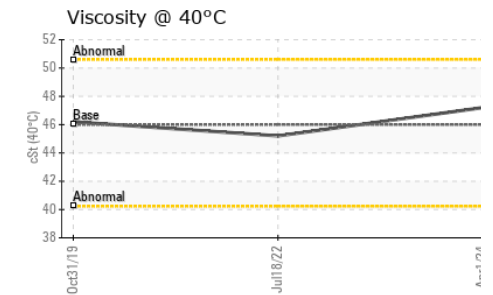
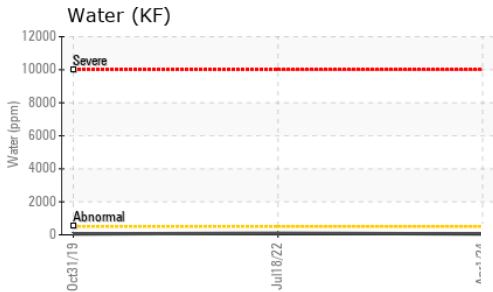
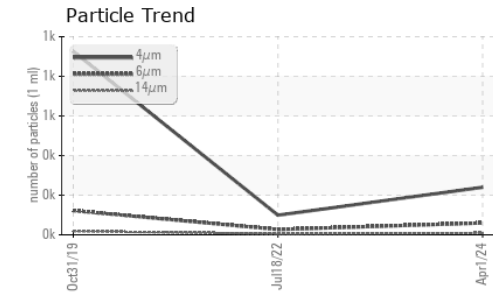
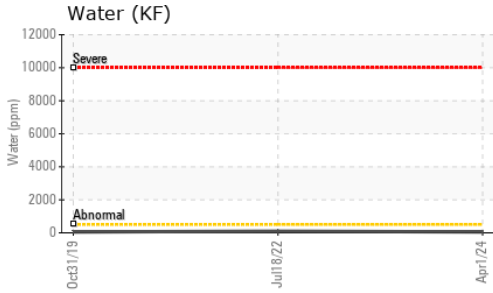
| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m |            | <b>0</b>     | <1       | 0        |
| Barium     | ppm | ASTM D5185m | 90         | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Manganese  | ppm | ASTM D5185m |            | <b>0</b>     | 0        | <1       |
| Magnesium  | ppm | ASTM D5185m | 90         | <b>&lt;1</b> | <1       | 0        |
| Calcium    | ppm | ASTM D5185m | 2          | <b>0</b>     | 0        | 0        |
| Phosphorus | ppm | ASTM D5185m |            | <b>0</b>     | 10       | 2        |
| Zinc       | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 1        |

| CONTAMINANTS |     | method      | limit/base | current      | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >25        | <b>0</b>     | <1       | 0        |
| Sodium       | ppm | ASTM D5185m |            | <b>0</b>     | 0        | <1       |
| Potassium    | ppm | ASTM D5185m | >20        | <b>&lt;1</b> | 0        | 0        |
| Water        | %   | ASTM D6304  | >0.05      | <b>0.005</b> | 0.009    | 0.005    |
| ppm Water    | ppm | ASTM D6304  | >500       | <b>52</b>    | 99.5     | 50.7     |

| FLUID CLEANLINESS |  | method       | limit/base | current         | history1 | history2 |
|-------------------|--|--------------|------------|-----------------|----------|----------|
| Particles >4µm    |  | ASTM D7647   |            | <b>240</b>      | 99       | 926      |
| Particles >6µm    |  | ASTM D7647   | >1300      | <b>60</b>       | 27       | 122      |
| Particles >14µm   |  | ASTM D7647   | >80        | <b>9</b>        | 5        | 18       |
| Particles >21µm   |  | ASTM D7647   | >20        | <b>4</b>        | 2        | 10       |
| Particles >38µm   |  | ASTM D7647   | >4         | <b>0</b>        | 0        | 1        |
| Particles >71µm   |  | ASTM D7647   | >3         | <b>0</b>        | 0        | 0        |
| Oil Cleanliness   |  | ISO 4406 (c) | >--/17/13  | <b>15/13/10</b> | 14/12/10 | 14/11    |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 | 0.4        | <b>0.56</b> | 0.54     | 0.512    |

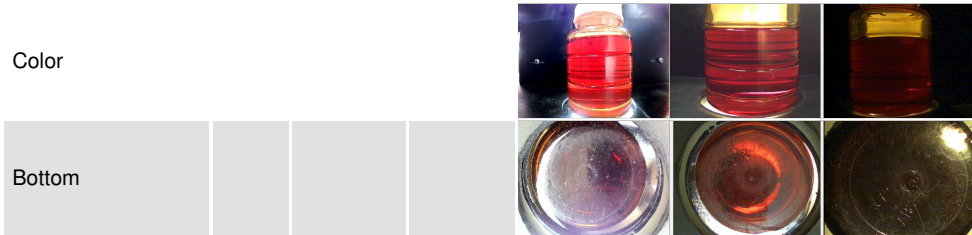
# OIL ANALYSIS REPORT



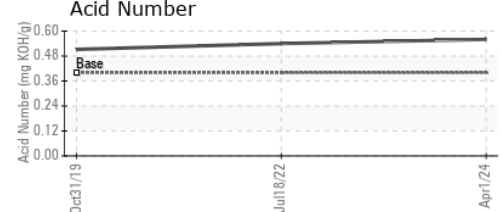
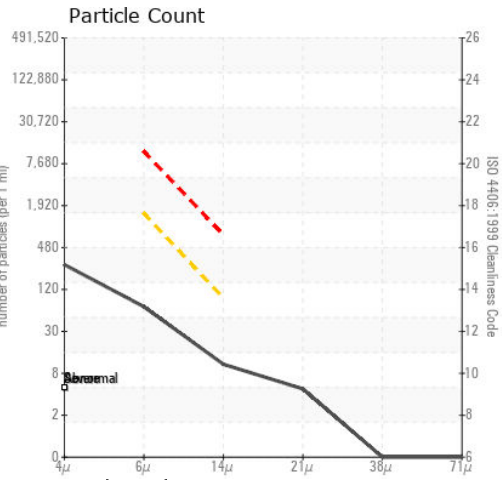
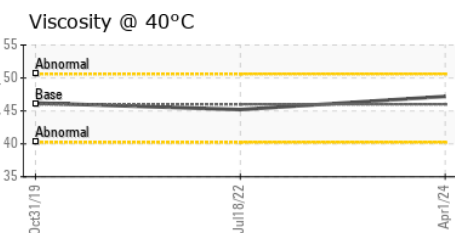
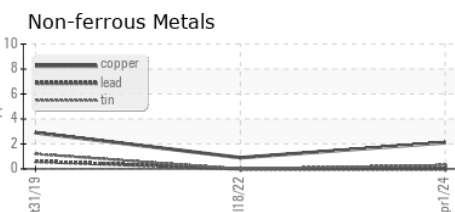
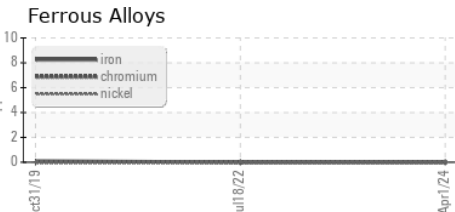
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | 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 | 47.2    | 45.2     | 46.2     |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KC101534  
**Lab Number** : 06139891  
**Unique Number** : 10964699  
**Test Package** : IND 2

**Received** : 05 Apr 2024  
**Tested** : 08 Apr 2024  
**Diagnosed** : 08 Apr 2024 - Don Baldrige

**LINDE GAS**  
 1000 MORGANTOWN INDUSTRIAL PK  
 MORGANTOWN, WV  
 US 26501  
 Contact: Service Manager

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: