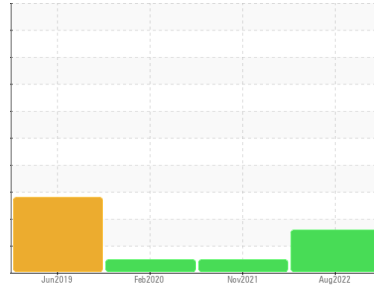


# PROBLEM SUMMARY

Sample Rating Trend



ISO



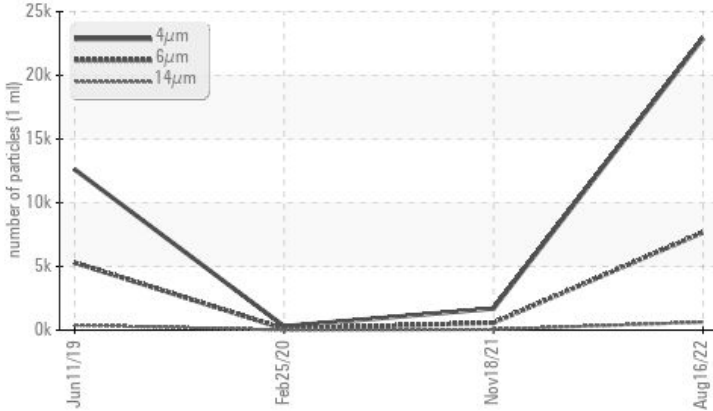
Machine Id  
**KAESER CSD 75 5571864 (S/N 1220)**

Component  
**Compressor**

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

## COMPONENT CONDITION SUMMARY

### ▲ Particle Trend



## 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.

## PROBLEMATIC TEST RESULTS

| Sample Status   |              |           | ABNORMAL          | NORMAL | NORMAL |
|-----------------|--------------|-----------|-------------------|--------|--------|
| Particles >6µm  | ASTM D7647   | >1300     | ▲ <b>7667</b>     | 577    | 111    |
| Particles >14µm | ASTM D7647   | >80       | ▲ <b>629</b>      | 53     | 8      |
| Particles >21µm | ASTM D7647   | >20       | ▲ <b>114</b>      | 15     | 2      |
| Oil Cleanliness | ISO 4406 (c) | >--/17/13 | ▲ <b>22/20/16</b> | 16/13  | 14/10  |

Customer Id: HOBOKL  
Sample No.: KCP50603  
Lab Number: 05623905  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 18 Nov 2021 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 25 Feb 2020 Diag: Jonathan Hester

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 11 Jun 2019 Diag: Angela Borella

WATER



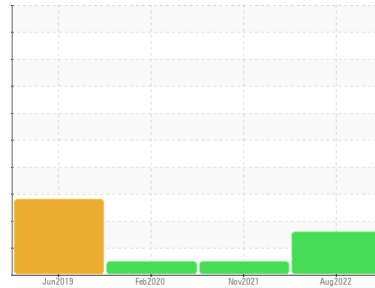
No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the oil. There is a trace of moisture present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



Machine Id  
**KAESER CSD 75 5571864 (S/N 1220)**

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 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            | history 1   | history 2   |
|---------------|--------|------------|--------------------|-------------|-------------|
| Sample Number |        |            | <b>KCP50603</b>    | KCP39798    | KCP20623    |
| Sample Date   |        |            | <b>16 Aug 2022</b> | 18 Nov 2021 | 25 Feb 2020 |
| Machine Age   | hrs    |            | <b>26698</b>       | 23105       | 15686       |
| Oil Age       | hrs    |            | <b>3583</b>        | 7419        | 7895        |
| Oil Changed   |        |            | <b>Not Changed</b> | Changed     | Changed     |
| Sample Status |        |            | <b>ABNORMAL</b>    | NORMAL      | NORMAL      |

## WEAR METALS

|          | method          | limit/base | current      | history 1 | history 2 |
|----------|-----------------|------------|--------------|-----------|-----------|
| Iron     | ppm ASTM D5185m | >50        | <b>&lt;1</b> | 0         | <1        |
| Chromium | ppm ASTM D5185m | >10        | <b>0</b>     | 0         | <1        |
| Nickel   | ppm ASTM D5185m | >3         | <b>0</b>     | 0         | <1        |
| Titanium | ppm ASTM D5185m | >3         | <b>0</b>     | 0         | 0         |
| Silver   | ppm ASTM D5185m | >2         | <b>0</b>     | 0         | 0         |
| Aluminum | ppm ASTM D5185m | >10        | <b>&lt;1</b> | <1        | <1        |
| Lead     | ppm ASTM D5185m | >10        | <b>0</b>     | 0         | 0         |
| Copper   | ppm ASTM D5185m | >50        | <b>3</b>     | 5         | 5         |
| Tin      | ppm ASTM D5185m | >10        | <b>0</b>     | 0         | 0         |
| Antimony | ppm ASTM D5185m |            | <b>---</b>   | 0         | 3         |
| Vanadium | ppm ASTM D5185m |            | <b>0</b>     | 0         | 0         |
| Cadmium  | ppm ASTM D5185m |            | <b>0</b>     | 0         | 0         |

## ADDITIVES

|            | method          | limit/base | current      | history 1 | history 2 |
|------------|-----------------|------------|--------------|-----------|-----------|
| Boron      | ppm ASTM D5185m |            | <b>0</b>     | 0         | <1        |
| 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         | 0         |
| Magnesium  | ppm ASTM D5185m | 90         | <b>64</b>    | 39        | 40        |
| Calcium    | ppm ASTM D5185m | 2          | <b>0</b>     | 0         | <1        |
| Phosphorus | ppm ASTM D5185m |            | <b>6</b>     | 2         | 1         |
| Zinc       | ppm ASTM D5185m |            | <b>22</b>    | 43        | 35        |
| Sulfur     | ppm ASTM D5185m |            | <b>18669</b> | 15898     | 14996     |

## CONTAMINANTS

|           | method          | limit/base | current      | history 1 | history 2 |
|-----------|-----------------|------------|--------------|-----------|-----------|
| Silicon   | ppm ASTM D5185m | >25        | <b>0</b>     | 0         | <1        |
| Sodium    | ppm ASTM D5185m |            | <b>19</b>    | 25        | 20        |
| Potassium | ppm ASTM D5185m | >20        | <b>4</b>     | 4         | 2         |
| Water     | % ASTM D6304    | >0.05      | <b>0.026</b> | 0.015     | 0.014     |
| ppm Water | ppm ASTM D6304  | >500       | <b>267.0</b> | 153.5     | 145.0     |

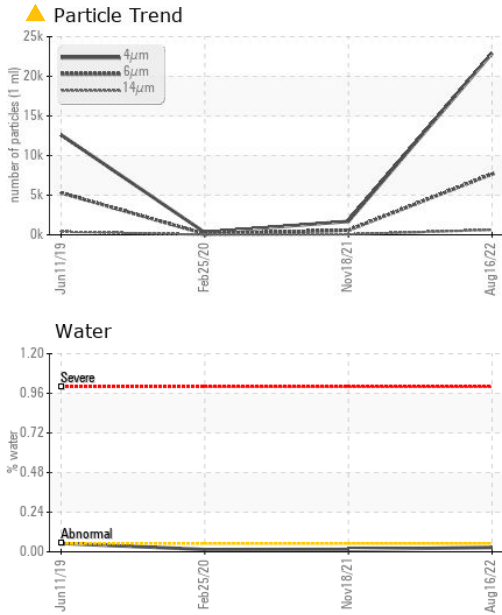
## FLUID CLEANLINESS

|                 | method       | limit/base | current           | history 1 | history 2 |
|-----------------|--------------|------------|-------------------|-----------|-----------|
| Particles >4µm  | ASTM D7647   |            | <b>22905</b>      | 1698      | 300       |
| Particles >6µm  | ASTM D7647   | >1300      | <b>▲ 7667</b>     | 577       | 111       |
| Particles >14µm | ASTM D7647   | >80        | <b>▲ 629</b>      | 53        | 8         |
| Particles >21µm | ASTM D7647   | >20        | <b>▲ 114</b>      | 15        | 2         |
| Particles >38µm | ASTM D7647   | >4         | <b>3</b>          | 0         | 0         |
| Particles >71µm | ASTM D7647   | >3         | <b>0</b>          | 0         | 0         |
| Oil Cleanliness | ISO 4406 (c) | >--/17/13  | <b>▲ 22/20/16</b> | 16/13     | 14/10     |

## FLUID DEGRADATION

|                  | method              | limit/base | current     | history 1 | history 2 |
|------------------|---------------------|------------|-------------|-----------|-----------|
| Acid Number (AN) | mg KOH/g ASTM D8045 | 0.4        | <b>0.35</b> | 0.321     | 0.347     |

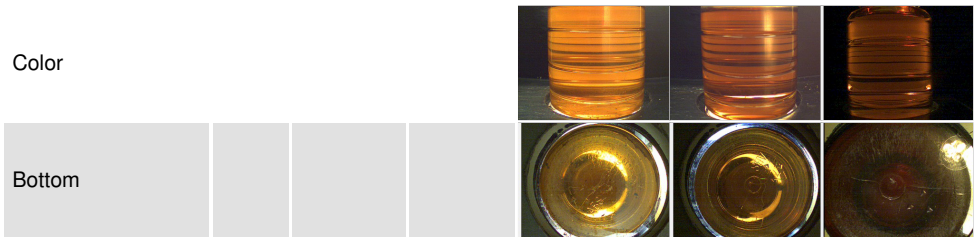
# OIL ANALYSIS REPORT



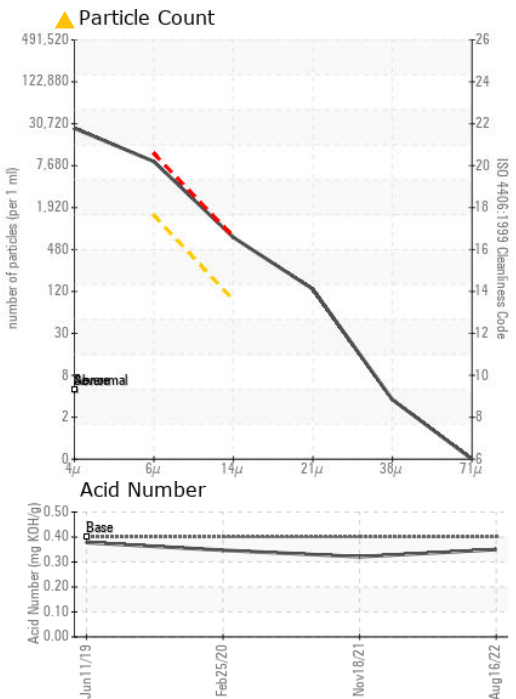
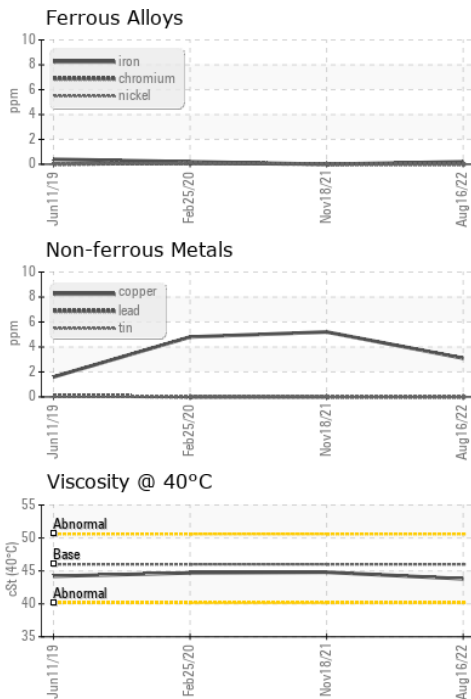
| PARAMETER        | method | limit/base | current | history 1 | history 2 |
|------------------|--------|------------|---------|-----------|-----------|
| White Metal      | scalar | *Visual    | NONE    | NONE      | NONE      |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE      | NONE      |
| 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       |

| PARAMETER   | method | limit/base | current | history 1 | history 2 |
|-------------|--------|------------|---------|-----------|-----------|
| Visc @ 40°C | cSt    | ASTM D445  | 46      | 43.8      | 44.8      |

| PARAMETER | method | limit/base | current | history 1 | history 2 |
|-----------|--------|------------|---------|-----------|-----------|
|-----------|--------|------------|---------|-----------|-----------|



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCP50603 **Received** : 22 Aug 2022  
**Lab Number** : 05623905 **Diagnosed** : 24 Aug 2022  
**Unique Number** : 10103412 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**HOBBY LOBBY**  
 7707 SW 44TH ST  
 OKLAHOMA CITY, OK  
 USA 73179  
 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)