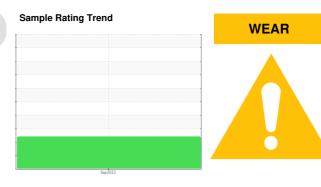


# **PROBLEM SUMMARY**

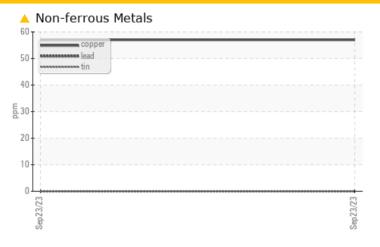
 $^{\text{Machine Id}}_{8740199}$  (S/N 7930)

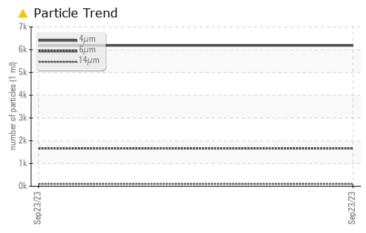
Component Compressor

KAESER SIGMA (OEM) M-460 (--- GAL)



### **COMPONENT CONDITION SUMMARY**





### 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				
Copper	ppm	ASTM D5185m	>50	<u> </u>				
Particles >6µm		ASTM D7647	>1300	<b>1666</b>				
Particles >14µm		ASTM D7647	>80	<b>100</b>				
Particles >21µm		ASTM D7647	>20	<u> </u>				
Oil Cleanliness		ISO 4406 (c)	>/17/13	<u>^</u> 20/18/14				

Customer Id: CSCFTW Sample No.: KCPA003224 Lab Number: 05965388 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:

Don Baldridge +1 don.b505@comcast.net

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

## RECOMMENDED ACTIONS

There are no recommended actions for this sample.

## HISTORICAL DIAGNOSIS



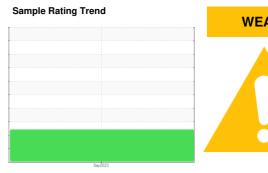
# **OIL ANALYSIS REPORT**

8740199 (S/N 7930)

Component

Compressor

KAESER SIGMA (OEM) M-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

The copper level is abnormal. All other 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.

Machine Age         hrs         Client Info         4393            Oil Age         hrs         Client Info         0            Oil Changed         Client Info         N/A            Sample Status         MRADRMAL             Iron         ppm         ASTM D5185m         >50         0            Chromium         ppm         ASTM D5185m         >10         0            Nickel         ppm         ASTM D5185m         >3         0            Silver         ppm         ASTM D5185m         >3         0            Silver         ppm         ASTM D5185m         >2         0            Aluminum         ppm         ASTM D5185m         >10         4            Aluminum         ppm         ASTM D5185m         >50         57            Aluminum         ppm         ASTM D5185m         >50         57            Lead         ppm         ASTM D5185m         >50         57            Vanadium         ppm         ASTM D5185m         0         0 </th <th>hiotory</th>	hiotory
Sample Date         Client Info         23 Sep 2023            Machine Age         hrs         Client Info         4393            Oil Age         hrs         Client Info         0            Oil Changed         Client Info         N/A            Sample Status         N/A             WEAR METALS         method         limit/base         current         history1           Iron         ppm         ASTM D5185m         >50         0            Chromium         ppm         ASTM D5185m         >50         0            Nickel         ppm         ASTM D5185m         >3         0            Nickel         ppm         ASTM D5185m         >2         0            Silver         ppm         ASTM D5185m         >10         4            Palead         ppm         ASTM D5185m         >10         0            Copper         ppm         ASTM D5185m         >10         0            Tina         ppm         ASTM D5185m         50         AST	history2
Machine Age         hrs         Client Info         4393            Oil Age         hrs         Client Info         0            Oil Changed         Client Info         N/A            Sample Status         MEAR METALS         method         limit/base         current         history1           Iron         ppm         ASTM D5185m         >50         0            Chromium         ppm         ASTM D5185m         >10         0            Nickel         ppm         ASTM D5185m         >3         0            Silver         ppm         ASTM D5185m         >2         0            Aluminum         ppm         ASTM D5185m         >10         4            Lead         ppm         ASTM D5185m         >10         0            Acquer         ppm         ASTM D5185m         >10         0            Vanadium         ppm         ASTM D5185m         >10         0            Vanadium         ppm         ASTM D5185m         0         0            Cadmium         ppm         ASTM D5185m </td <td></td>	
Oil Age         hrs         Client Info         N/A            Oil Changed         Client Info         N/A            Sample Status         ABNORMAL             WEAR METALS         method         limit/base         current         history1           Iron         ppm         ASTM D5185m         >50         0            Chromium         ppm         ASTM D5185m         >10         0            Nickel         ppm         ASTM D5185m         >3         0            Nickel         ppm         ASTM D5185m         >3         0            Alluminum         ppm         ASTM D5185m         >10         4            Alluminum         ppm         ASTM D5185m         >10         0            Alluminum         ppm         ASTM D5185m         >10         0            Lead         ppm         ASTM D5185m         >10         0            Copper         ppm         ASTM D5185m         0         0            Tin         ppm         ASTM D5185m         0         0 <td< td=""><td></td></td<>	
Oil Changed Sample Status         Client Info         N/A	
Sample Status         ABNORMAL	
WEAR METALS         method         limit/base         current         history1           Iron         ppm         ASTM D5185m         >50         0            Chromium         ppm         ASTM D5185m         >10         0            Nickel         ppm         ASTM D5185m         >3         0            Titanium         ppm         ASTM D5185m         >3         0            Silver         ppm         ASTM D5185m         >2         0            Aluminum         ppm         ASTM D5185m         >10         4            Aluminum         ppm         ASTM D5185m         >10         0            Copper         ppm         ASTM D5185m         >10         0            Tin         ppm         ASTM D5185m         0         0            Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1           Boron         ppm	
Iron	
Chromium	history2
Nickel	
Titanium ppm ASTM D5185m >3 0  ASTM D5185m >2 0  Aluminum ppm ASTM D5185m >10 0  Copper ppm ASTM D5185m >10 0  Copper ppm ASTM D5185m >50 ▲ 57  Tin ppm ASTM D5185m >10 0  Vanadium ppm ASTM D5185m >0  Cadmium ppm ASTM D5185m 0  ADDITIVES method limit/base current history1  Boron ppm ASTM D5185m 0 0  Barium ppm ASTM D5185m 90 0  Molybdenum ppm ASTM D5185m 0 0  Manganese ppm ASTM D5185m 0 0  Manganese ppm ASTM D5185m 0 0  Manganesium ppm ASTM D5185m 0 0  Manganesium ppm ASTM D5185m 0 0  Salicium ppm ASTM D5185m 0 0  Calcium ppm ASTM D5185m 0 0  Calcium ppm ASTM D5185m 0 0  Sulfur ppm ASTM D5185m 0 0  Sulfur ppm ASTM D5185m 0 0  CONTAMINANTS method limit/base current history1  Silicon ppm ASTM D5185m 0 0  CONTAMINANTS method limit/base current history1  Silicon ppm ASTM D5185m 0  Function ppm ASTM D6304 >0.05 0.005  FullD CLEANLINESS method limit/base current history1  Particles >4μm ASTM D7647 51300  FullD CLEANLINESS method limit/base current history1  Particles >4μm  ASTM D7647 >1300  ASTM D7647 51300  Incomp ASTM D7647 51300  Titon ppm ASTM D7647 51300	
Silver	
Aluminum	
Lead         ppm         ASTM D5185m         >10         0            Copper         ppm         ASTM D5185m         >50         ▲ 57            Tin         ppm         ASTM D5185m         >10         0            Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0         0            ADDITIVES         method         limit/base         current         history1           Boron         ppm         ASTM D5185m         0         0            Boron         ppm         ASTM D5185m         0         0            Barium         ppm         ASTM D5185m         0         0            Molybdenum         ppm         ASTM D5185m         0         0            Magnesium         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         0         0            Phosphorus         ppm         ASTM D5185m         0         0            Sulfur         pp	
Copper	
Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0  ADDITIVES method limit/base current history1  Boron ppm ASTM D5185m 90 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Sulfur ppm ASTM D5185m 0 0 Sulfur ppm ASTM D5185m 0 16730  CONTAMINANTS method limit/base current history1  Silicon ppm ASTM D5185m >25 0 Sodium ppm ASTM D5185m >20 0 Sodium ppm ASTM D5185m >20 0  FLUID CLEANLINESS method limit/base current history1  Particles >4μm ASTM D7647 51300  16666	
Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0  ADDITIVES method limit/base current history1  Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 0 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 0 Sulfur ppm ASTM D5185m 0 0 Sulfur ppm ASTM D5185m 0 16730  CONTAMINANTS method limit/base current history1  Silicon ppm ASTM D5185m 2 0 Sodium ppm ASTM D5185m 0 FLUID CLEANLINESS method limit/base current history1  Particles >4μm ASTM D7647 51300 ▲ 16666	
Cadmium         ppm         ASTM D5185m         0            ADDITIVES         method         limit/base         current         history1           Boron         ppm         ASTM D5185m         0         0            Barium         ppm         ASTM D5185m         90         0            Molybdenum         ppm         ASTM D5185m         0         0            Manganese         ppm         ASTM D5185m         100         5            Magnesium         ppm         ASTM D5185m         0         0            Calcium         ppm         ASTM D5185m         0         0            Phosphorus         ppm         ASTM D5185m         0         0            Zinc         ppm         ASTM D5185m         0         0            Sulfur         ppm         ASTM D5185m         23500         16730            CONTAMINANTS         method         limit/base         current         history1           Silicon         ppm         ASTM D5185m         >25         0            Sodium         ppm </td <td></td>	
ADDITIVES         method         limit/base         current         history1           Boron         ppm         ASTM D5185m         0         0            Barium         ppm         ASTM D5185m         90         0            Molybdenum         ppm         ASTM D5185m         0         0            Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         100         5            Calcium         ppm         ASTM D5185m         0         0            Phosphorus         ppm         ASTM D5185m         0         2            Zinc         ppm         ASTM D5185m         0         0            Sulfur         ppm         ASTM D5185m         23500         16730            CONTAMINANTS         method         limit/base         current         history1           Silicon         ppm         ASTM D5185m         >25         0            Sodium         ppm         ASTM D5185m         >20         0            Potassium	
Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 90 0 Molybdenum ppm ASTM D5185m 0 0 Manganese ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 100 5 Calcium ppm ASTM D5185m 0 0 Phosphorus ppm ASTM D5185m 0 2 Zinc ppm ASTM D5185m 0 0 Sulfur ppm ASTM D5185m 0 0  CONTAMINANTS method limit/base current history1  Silicon ppm ASTM D5185m 0 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.005 ppm Water ppm ASTM D6304 >500 52.6  FLUID CLEANLINESS method limit/base current history1  Particles >4μm ASTM D7647 >1300 Δ 1666	
Barium   ppm   ASTM D5185m   90   0   0   0   0   0   0   0   0	history2
Molybdenum         ppm         ASTM D5185m         0         0            Manganese         ppm         ASTM D5185m         0            Magnesium         ppm         ASTM D5185m         100         5            Calcium         ppm         ASTM D5185m         0         0            Phosphorus         ppm         ASTM D5185m         0         2            Zinc         ppm         ASTM D5185m         0         0            Sulfur         ppm         ASTM D5185m         23500         16730            CONTAMINANTS         method         limit/base         current         history1           Silicon         ppm         ASTM D5185m         >25         0            Sodium         ppm         ASTM D5185m         >20         0            Potassium         ppm         ASTM D6304         >0.05         0.005            Depm Water         %         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm	
Manganese         ppm         ASTM D5185m         0            Magnesium         ppm         ASTM D5185m         100         5            Calcium         ppm         ASTM D5185m         0         0            Phosphorus         ppm         ASTM D5185m         0         2            Zinc         ppm         ASTM D5185m         0         0            Sulfur         ppm         ASTM D5185m         23500         16730            CONTAMINANTS         method         limit/base         current         history1           Silicon         ppm         ASTM D5185m         >25         0            Sodium         ppm         ASTM D5185m         0            Potassium         ppm         ASTM D5185m         >20         0            Water         %         ASTM D6304         >0.05         0.005            opm Water         ppm         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7	
Magnesium         ppm         ASTM D5185m         1 0 0         5            Calcium         ppm         ASTM D5185m         0         0            Phosphorus         ppm         ASTM D5185m         0         2            Zinc         ppm         ASTM D5185m         0         0            Sulfur         ppm         ASTM D5185m         23500         16730            CONTAMINANTS         method         limit/base         current         history1           Silicon         ppm         ASTM D5185m         >25         0            Sodium         ppm         ASTM D5185m         0            Potassium         ppm         ASTM D5185m         >20         0            Water         %         ASTM D6304         >0.05         0.005            ppm Water         ppm         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7647         >1300         1666	
Calcium         ppm         ASTM D5185m         0         0            Phosphorus         ppm         ASTM D5185m         0         2            Zinc         ppm         ASTM D5185m         0         0            Sulfur         ppm         ASTM D5185m         23500         16730            CONTAMINANTS         method         limit/base         current         history1           Silicon         ppm         ASTM D5185m         >25         0            Sodium         ppm         ASTM D5185m         0            Potassium         ppm         ASTM D5185m         >20         0            Water         %         ASTM D6304         >0.05         0.005            ppm Water         ppm         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7647         >1300         1666	
Phosphorus         ppm         ASTM D5185m         0         2            Zinc         ppm         ASTM D5185m         0         0            Sulfur         ppm         ASTM D5185m         23500         16730            CONTAMINANTS         method         limit/base         current         history1           Silicon         ppm         ASTM D5185m         >25         0            Sodium         ppm         ASTM D5185m         0            Potassium         ppm         ASTM D5185m         >20         0            Water         %         ASTM D6304         >0.05         0.005            ppm Water         ppm         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7647         >1300         1666            Particles >6μm         ASTM D7647         >1300         1666	
Zinc   ppm   ASTM D5185m   0   0   0   0   0   0   0   0	
Sulfur         ppm         ASTM D5185m         23500         16730            CONTAMINANTS         method         limit/base         current         history1           Silicon         ppm         ASTM D5185m         >25         0            Sodium         ppm         ASTM D5185m         0            Potassium         ppm         ASTM D5185m         >20         0            Water         %         ASTM D6304         >0.05         0.005            ppm Water         ppm         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7647         >1300         1666	
CONTAMINANTS         method         limit/base         current         history1           Silicon         ppm         ASTM D5185m         >25         0            Sodium         ppm         ASTM D5185m         0            Potassium         ppm         ASTM D5185m         >20         0            Water         %         ASTM D6304         >0.05         0.005            ppm Water         ppm         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7647         6182            Particles >6μm         ASTM D7647         >1300         1666	
Silicon   ppm   ASTM D5185m   >25   0       Sodium   ppm   ASTM D5185m   0       Potassium   ppm   ASTM D5185m   >20   0       Water   %   ASTM D6304   >0.05   0.005       ppm Water   ppm   ASTM D6304   >500   52.6       FLUID CLEANLINESS   method   limit/base   current   history1     Particles >4μm   ASTM D7647   6182       Particles >6μm   ASTM D7647   >1300   ▲ 1666	
Sodium   ppm   ASTM D5185m   0	history2
Sodium         ppm         ASTM D5185m         0            Potassium         ppm         ASTM D5185m         >20         0            Water         %         ASTM D6304         >0.05         0.005            opm Water         ppm         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7647         6182            Particles >6μm         ASTM D7647         >1300         1666	
Potassium         ppm         ASTM D5185m         >20         0            Water         %         ASTM D6304         >0.05         0.005            opm Water         ppm         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7647         6182            Particles >6μm         ASTM D7647         >1300         1666	
Water         %         ASTM D6304         >0.05         0.005            opm Water         ppm         ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7647         6182            Particles >6μm         ASTM D7647         >1300         1666	
ppm Water         ppm ASTM D6304         >500         52.6            FLUID CLEANLINESS         method         limit/base         current         history1           Particles >4μm         ASTM D7647         6182            Particles >6μm         ASTM D7647         >1300         1666	
Particles >4μm       ASTM D7647       6182          Particles >6μm       ASTM D7647       >1300       ▲ 1666	
Particles >6μm ASTM D7647 >1300 Δ 1666	history2
Particles >14μm ASTM D7647 >80 <b>Δ 100</b>	
Particles >21μm ASTM D7647 >20 <b>Δ 21</b>	
Particles >38μm ASTM D7647 >4 <b>0</b>	
Particles >71µm ASTM D7647 >3 <b>0</b>	
Oil Cleanliness ISO 4406 (c) >/17/13 ▲ 20/18/14	
FLUID DEGRADATION method limit/base current history1	history2
Acid Number (AN) mg KOH/g ASTM D8045 1.0 0.38	



## **OIL ANALYSIS REPORT**







Sample No. Lab Number **Unique Number** 

: 05965388

: KCPA003224 : 10671939

Received Diagnosed

: 02 Oct 2023

Diagnostician : Don Baldridge

Test Package : IND 2 ( Additional Tests: KF, PrtCount ) Certificate L2367 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)

FT WORTH, TX

Contact: Service Manager

US 76140