

# **PROBLEM SUMMARY**

KAESER 3458598

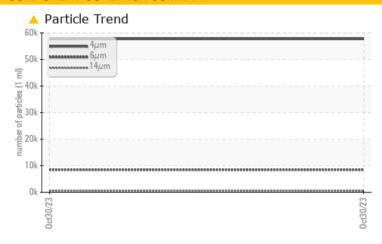
Component

Compressor

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

# Sample Rating Trend ISO

## **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						
Particles >6µm	ASTM D7647	>1300	<b>A</b> 8486						
Particles >14μm	ASTM D7647	>80	<u>▲</u> 571						
Particles >21µm	ASTM D7647	>20	<b>165</b>						
Particles >38μm	ASTM D7647	>4	<u>^</u> 7						
Oil Cleanliness	ISO 4406 (c)	>/17/13	<b>23/20/16</b>						

**Customer Id: DELLYO** Sample No.: KCPA010752 Lab Number: 06006355 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Doug Bogart +1 (800)237-1369 x4016 dougb@wearcheckusa.com

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



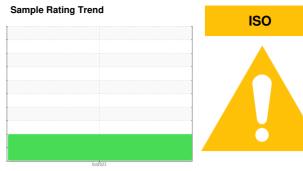
# **OIL ANALYSIS REPORT**

# **KAESER 3458598**

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

All component wear rates are normal.

#### Contamination

There is a high amount of particulates present in the oil.

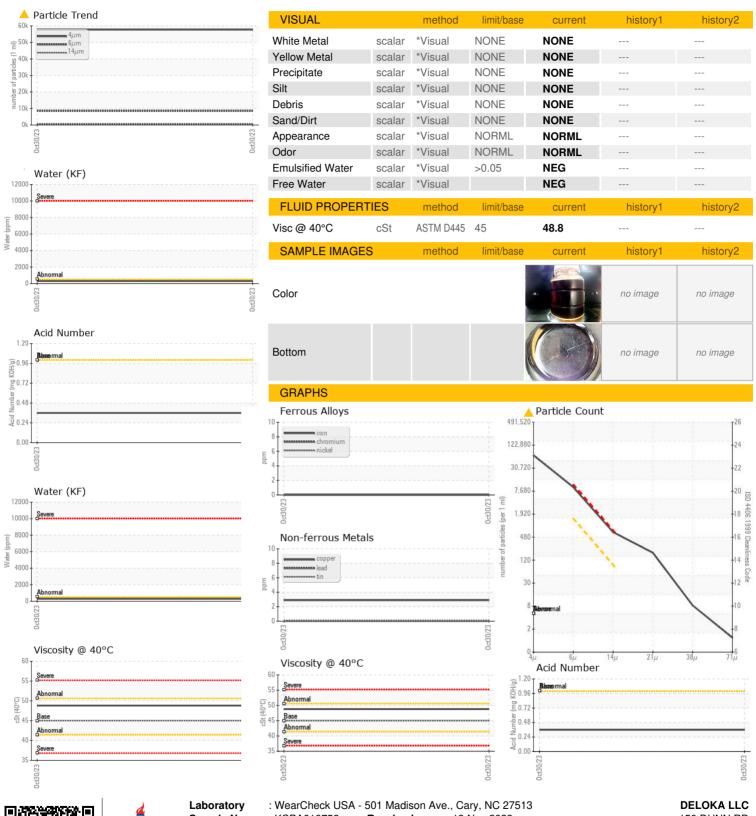
#### **Fluid Condition**

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 Date         Client Info         XCPA010752             Machine Age         hrs         Client Info         28952             Oil Age         hrs         Client Info         0             Oil Changed         Client Info         N/A             Sample Status         method         limit/base         ourrent         history1         history2           Iron         ppm         ASTM 05185m         >50         0             WEAR METALS         method         limit/base         ourrent         history1         history2           Iron         ppm         ASTM 05185m         >50         0             Chromium         ppm         ASTM 05185m         >3         0             Iron         ppm         ASTM 05185m         >10         0             Silver         ppm         ASTM 05185m         >10         0             Capper<					Oct2023		
Sample Date   Client Info   28952	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         28952	Sample Number		Client Info		KCPA010752		
Oil Age         hrs         Client Info         N/A             Sample Status         Client Info         N/A             WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         0             Chromium         ppm         ASTM D5185m         >50         0             Nickel         ppm         ASTM D5185m         >3         0             Silver         ppm         ASTM D5185m         >3         0             Aluminum         ppm         ASTM D5185m         >10         0             Aluminum         ppm         ASTM D5185m         >10         0             Lead         ppm         ASTM D5185m         >50         3             Copper         ppm         ASTM D5185m         0         0             Vanadium         ppm         ASTM D5185m         0         0	Sample Date		Client Info		30 Oct 2023		
Oil Changed Sample Status         Client Info         N/A	Machine Age	hrs	Client Info		28952		
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         0             Chromium         ppm         ASTM D5185m         >10         0             Nickel         ppm         ASTM D5185m         >3         0             Titanium         ppm         ASTM D5185m         >2         0             Aluminum         ppm         ASTM D5185m         >10         0             Aluminum         ppm         ASTM D5185m         >10         0             Lead         ppm         ASTM D5185m         >10         0             Copper         ppm         ASTM D5185m         >10         0             Vanadium         ppm         ASTM D5185m         0         0             Cadmium         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         0	Oil Age	hrs	Client Info		0		
WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         0	Oil Changed		Client Info		N/A		
Iron	Sample Status				ABNORMAL		
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         0             Lead         ppm         ASTM D5185m         >10         0             Copper         ppm         ASTM D5185m         >10         0             Tin         ppm         ASTM D5185m         0         0             Cadmium         ppm         ASTM D5185m         0         0             Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         0         0	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	0		
Titanium   ppm   ASTM D5185m   >3   0	Chromium	ppm	ASTM D5185m	>10	0		
Silver	Nickel	ppm	ASTM D5185m	>3	0		
Aluminum ppm ASTM D5185m >10 0	Titanium	ppm	ASTM D5185m	>3	0		
Lead         ppm         ASTM D5185m         >10         0             Copper         ppm         ASTM D5185m         >50         3             Tin         ppm         ASTM D5185m         >10         0             Vanadium         ppm         ASTM D5185m         0         0             Cadmium         ppm         ASTM D5185m         0         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         90         30             Magnesium         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         0         <1	Silver	ppm	ASTM D5185m	>2	0		
Copper         ppm         ASTM D5185m         >50         3             Tin         ppm         ASTM D5185m         >10         0             Vanadium         ppm         ASTM D5185m         0         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         0         0             Molybdenum         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         100         65             ASTM D5185m         0         <1	Aluminum	ppm	ASTM D5185m	>10	0		
Tin	Lead	ppm	ASTM D5185m	>10	0		
Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         90         30             Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         0         0             Magnesium         ppm         ASTM D5185m         0         <1             Magnesium         ppm         ASTM D5185m         0         <1             Calcium         ppm         ASTM D5185m         0         <1             Phosphorus         ppm         ASTM D5185m         0         0             Sulfur         ppm         ASTM D5185m         0         0          <	Copper	ppm	ASTM D5185m	>50	3		
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         90         30             Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         0         65             Magnesium         ppm         ASTM D5185m         100         65             Calcium         ppm         ASTM D5185m         0         <1	Tin	ppm	ASTM D5185m	>10	0		
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         90         30             Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         0              Magnesium         ppm         ASTM D5185m         100         65              Calcium         ppm         ASTM D5185m         0         <1	Vanadium	ppm	ASTM D5185m		0		
Boron         ppm         ASTM D5185m         0         0             Barium         ppm         ASTM D5185m         90         30             Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         100         65             Magnesium         ppm         ASTM D5185m         0         <1             Calcium         ppm         ASTM D5185m         0         <1             Phosphorus         ppm         ASTM D5185m         0         <1             Phosphorus         ppm         ASTM D5185m         0         <1             Zinc         ppm         ASTM D5185m         0         0             Sulfur         ppm         ASTM D5185m         >23500         20093             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25<	Cadmium	ppm	ASTM D5185m		0		
Barium         ppm         ASTM D5185m         90         30             Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         100         65            Calcium         ppm         ASTM D5185m         0         <1            Phosphorus         ppm         ASTM D5185m         0         <1            Zinc         ppm         ASTM D5185m         0         0            Sulfur         ppm         ASTM D5185m         23500         20093            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0             Sodium         ppm         ASTM D5185m         >20         1             Potassium         ppm         ASTM D5185m         >20         1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0         0             Manganese         ppm         ASTM D5185m         100         65             Magnesium         ppm         ASTM D5185m         0         <1             Calcium         ppm         ASTM D5185m         0         <1             Phosphorus         ppm         ASTM D5185m         0         <1             Zinc         ppm         ASTM D5185m         0         0             Sulfur         ppm         ASTM D5185m         23500         20093             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0             Sodium         ppm         ASTM D5185m         >20         1             Vater         %         ASTM D5185m         >20         1             Water         %         ASTM D6185m         >20	Boron	ppm	ASTM D5185m	0	0		
Manganese         ppm         ASTM D5185m         0             Magnesium         ppm         ASTM D5185m         100         65             Calcium         ppm         ASTM D5185m         0         <1	Barium	ppm	ASTM D5185m	90	30		
Magnesium         ppm         ASTM D5185m         1 0 0         65             Calcium         ppm         ASTM D5185m         0         <1	Molybdenum	ppm	ASTM D5185m	0	0		
Calcium         ppm         ASTM D5185m         0         <1             Phosphorus         ppm         ASTM D5185m         0         <1	Manganese	ppm	ASTM D5185m		0		
Phosphorus         ppm         ASTM D5185m         0         <1             Zinc         ppm         ASTM D5185m         0         0             Sulfur         ppm         ASTM D5185m         23500         20093             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0             Sodium         ppm         ASTM D5185m         >25         0             Potassium         ppm         ASTM D5185m         >20         1             Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         0.029             ppm Water         ppm ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base	Magnesium	ppm	ASTM D5185m	100	65		
Zinc         ppm         ASTM D5185m         0         0             Sulfur         ppm         ASTM D5185m         23500         20093             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0             Sodium         ppm         ASTM D5185m         20         1             Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         0.029             ppm         ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >1300         48486             Particles >21µm         ASTM D7647         >20	Calcium	ppm	ASTM D5185m	0	<1		
Sulfur         ppm         ASTM D5185m         23500         20093             CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0             Sodium         ppm         ASTM D5185m         21             Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D5185m         >20         0         0.029             ppm Water         %         ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >80 <td< td=""><td>Phosphorus</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><td>&lt;1</td><td></td><td></td></td<>	Phosphorus	ppm	ASTM D5185m	0	<1		
CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         0             Sodium         ppm         ASTM D5185m         >20         1             Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         0.029             ppm Water         ppm         ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >1300         48486             Particles >6µm         ASTM D7647         >80         571             Particles >21µm         ASTM D7647         >4         7             Particles >38µm         ASTM D7647         >3         1             Particles >71µm         ASTM D7647         >3         1	Zinc	ppm	ASTM D5185m	0	0		
Silicon         ppm         ASTM D5185m         >25         0             Sodium         ppm         ASTM D5185m         21             Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         0.029             ppm Water         ppm         ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >1300         48486             Particles >6μm         ASTM D7647         >80         571             Particles >21μm         ASTM D7647         >20         165             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         23/20/16 <td>Sulfur</td> <td>ppm</td> <td>ASTM D5185m</td> <td>23500</td> <td>20093</td> <td></td> <td></td>	Sulfur	ppm	ASTM D5185m	23500	20093		
Sodium         ppm         ASTM D5185m         21             Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         0.029             ppm Water         ppm         ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         57725             Particles >6μm         ASTM D7647         >1300         48486             Particles >14μm         ASTM D7647         >80         571             Particles >21μm         ASTM D7647         >20         165             Particles >38μm         ASTM D7647         >3         1             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         23/20/16             FLUID DE	CONTAMINANTS	3	method	limit/base	current	history1	history2
Sodium         ppm         ASTM D5185m         21             Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         0.029             ppm Water         ppm         ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         57725             Particles >6μm         ASTM D7647         >1300         48486             Particles >14μm         ASTM D7647         >80         571             Particles >21μm         ASTM D7647         >20         165             Particles >38μm         ASTM D7647         >3         1             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         23/20/16             FLUID DE	Silicon	nnm	ASTM D5185m	>25	0		
Potassium         ppm         ASTM D5185m         >20         1             Water         %         ASTM D6304         >0.05         0.029             ppm Water         ppm         ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         57725             Particles >6μm         ASTM D7647         >1300         48486             Particles >14μm         ASTM D7647         >80         571             Particles >21μm         ASTM D7647         >20         165             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         >3         1             Gil Cleanliness         ISO 4406 (c)         >/17/13         23/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2  <				720	-		
Water         %         ASTM D6304         >0.05         0.029             ppm Water         ppm         ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         57725             Particles >6μm         ASTM D7647         >1300         8486             Particles >14μm         ASTM D7647         >80         571             Particles >21μm         ASTM D7647         >20         165             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         23/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2				>20			
ppm Water         ppm         ASTM D6304         >500         291.5             FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         57725             Particles >6μm         ASTM D7647         >1300         8486             Particles >14μm         ASTM D7647         >80         571             Particles >21μm         ASTM D7647         >20         165             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         23/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2							
FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         57725             Particles >6μm         ASTM D7647         >1300         8486             Particles >14μm         ASTM D7647         >80         571             Particles >21μm         ASTM D7647         >20         165             Particles >38μm         ASTM D7647         >4         7             Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         23/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2							
Particles >6μm	FLUID CLEANLIN	NESS	method	limit/base	current	history1	history2
Particles >6μm       ASTM D7647       >1300       & 8486           Particles >14μm       ASTM D7647       >80       571           Particles >21μm       ASTM D7647       >20       165           Particles >38μm       ASTM D7647       >4       7           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       23/20/16           FLUID DEGRADATION       method       limit/base       current       history1       history2	Particles >4µm		ASTM D7647		57725		
Particles >14μm       ASTM D7647       >80       571           Particles >21μm       ASTM D7647       >20       165           Particles >38μm       ASTM D7647       >4       7           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       23/20/16           FLUID DEGRADATION       method       limit/base       current       history1       history2	·		ASTM D7647	>1300	<b>A</b> 8486		
Particles >21μm       ASTM D7647       >20       ▲ 165           Particles >38μm       ASTM D7647       >4       ▲ 7           Particles >71μm       ASTM D7647       >3       1           Oil Cleanliness       ISO 4406 (c)       >/17/13       ▲ 23/20/16           FLUID DEGRADATION       method       limit/base       current       history1       history2	•						
Particles >38 $\mu$ m ASTM D7647 >4 $\blacktriangleright$ 7 Particles >71 $\mu$ m ASTM D7647 >3 1 Oil Cleanliness ISO 4406 (c) >/17/13 $\blacktriangleright$ 23/20/16 FLUID DEGRADATION method limit/base current history1 history2	•						
Particles >71μm         ASTM D7647         >3         1             Oil Cleanliness         ISO 4406 (c)         >/17/13         ▲ 23/20/16             FLUID DEGRADATION         method         limit/base         current         history1         history2	•						
Oil Cleanliness ISO 4406 (c) >/17/13 A 23/20/16  FLUID DEGRADATION method limit/base current history1 history2							
,	•						
,	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2



# **OIL ANALYSIS REPORT**





Certificate L2367

Sample No. Lab Number **Unique Number** 

: 06006355

: KCPA010752

Received : 13 Nov 2023 Diagnosed : 14 Nov 2023 Diagnostician : Doug Bogart

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

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.

: 10740117

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

150 DUNN RD LYONS, NY US 14489

Contact: Service Manager

Contact/Location: Service Manager - DELLYO