

# **PROBLEM SUMMARY**

Sample Rating Trend

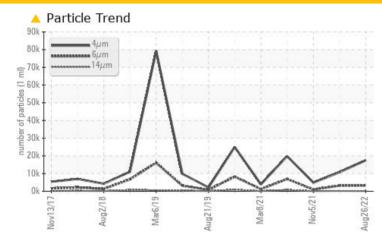


# Machine Id KAESER AS 25T 5748124 (S/N 1313)

Compressor

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

#### **COMPONENT CONDITION SUMMARY**



#### RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS								
Sample Status			ABNORMAL	ABNORMAL	NORMAL			
Particles >6µm	ASTM D7647	>1300	<b>△</b> 3215	<b>△</b> 3160	982			
Oil Cleanliness	ISO 4406 (c)	>/17/13	<b>21/19/13</b>	<u> </u>	17/13			

**Customer Id: AMATET** Sample No.: KC102941 Lab Number: 05646056 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**

Action	Status	Date	Done By	Description
Change Fluid			?	Oil and filter change at the time of sampling has been noted.
Change Filter			?	Oil and filter change at the time of sampling has been noted.

#### HISTORICAL DIAGNOSIS

#### 17 Feb 2022 Diag: Jonathan Hester

ISO



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. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



#### 05 Nov 2021 Diag: Doug Bogart

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

#### 04 Jun 2021 Diag: Doug Bogart

ISO



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. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





# **OIL ANALYSIS REPORT**

Sample Rating Trend



# KAESER AS 25T 5748124 (S/N 1313)

Compressor

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

**DIAGNOSIS** 

# Recommendation

No corrective action is recommended at this time. Oil and 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 silt (particulates < 14 microns in size) 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 Number         KC102941         KC96871         KC98000           Sample Date         26 Aug 2022         17 Feb 2022         05 Nov 203           Machine Age         hrs         16190         14079         13006           Oil Age         hrs         2111         1006         2659           Oil Changed         Not Changed         Not Changed         Not Changed         Not Changed         Not Changed           Sample Status         method         limit/base         current         history 1         history           Iron         ppm         ASTM D5185m         >50         0         0         <1			Nov2017	Aug2018 Mar2019	Aug2019 Mar2021 Nov2021	Aug2022	
Sample Date         26 Aug 2022         17 Feb 2022         05 Nov 203           Machine Age         hrs         16190         14079         13006           Oil Age         hrs         2111         1006         2659           Oil Changed Sample Status         Changed         Not Changed </th <th>SAMPLE INFORM</th> <th>MATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history 1</th> <th>history 2</th>	SAMPLE INFORM	MATION	method	limit/base	current	history 1	history 2
Sample Date         Age Machine Age         hrs         16190         14079         13006         2659           Oil Age         hrs         2111         1006         2659         Not Changed         Not C	Sample Number				KC102941	KC96871	KC98000
Oil Age         hrs         2111         1006         2659         Not Changd Changed Sample Status         Not Changed ABNORMAL         Not Changd Normal Nor					26 Aug 2022	17 Feb 2022	05 Nov 2021
Changed Sample Status	Machine Age	hrs			16190	14079	13006
ABNORMAL         ABNORMAL         ABNORMAL         NORMAL           WEAR METALS         method         limit/base         current         history 1         history 2         0	Oil Age	hrs			2111	1006	2659
WEAR METALS         method         limit/base         current         history 1         history 1           Iron         ppm         ASTM D5185m         >50         0         0         <1	Oil Changed				Changed	Not Changd	Not Changd
Iron	Sample Status				ABNORMAL	ABNORMAL	NORMAL
Chromium         ppm         ASTM D5185m         >10         0         0         0           Nickel         ppm         ASTM D5185m         >3         0         0         0           Titanium         ppm         ASTM D5185m         >3         0         0         0           Silver         ppm         ASTM D5185m         >2         0         <1	WEAR METALS		method	limit/base	current	history 1	history 2
Nickel ppm ASTM D5185m >3 0 0 0 0 0  Titanium ppm ASTM D5185m >3 0 0 0 0  Silver ppm ASTM D5185m >2 0 <1 0  Aluminum ppm ASTM D5185m >2 0 <1 0  Aluminum ppm ASTM D5185m >10 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Iron	ppm	ASTM D5185m	>50	0	0	<1
Titanium	Chromium	ppm	ASTM D5185m	>10	0	0	0
Silver	Nickel	ppm	ASTM D5185m	>3	0	0	0
Aluminum         ppm         ASTM D5185m         >10         <1         <1         <1           Lead         ppm         ASTM D5185m         >10         0         0         0           Copper         ppm         ASTM D5185m         >50         16         2         2           Tin         ppm         ASTM D5185m         >10         <1	Titanium	ppm	ASTM D5185m	>3	0	0	0
Lead         ppm         ASTM D5185m         >10         0         0         0           Copper         ppm         ASTM D5185m         >50         16         2         2           Tin         ppm         ASTM D5185m         >10         <1         <1         0           Antimony         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history         history           Boron         ppm         ASTM D5185m         0         0         11         No           Barium         ppm         ASTM D5185m         90         <1         17         8           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Manganesium         ppm         ASTM D5185m         0         32         76         80           Calcium         ppm         ASTM D5185m         2         <1         2	Silver	ppm	ASTM D5185m	>2	0	<1	0
Copper         ppm         ASTM D5185m         >50         16         2         2           Tin         ppm         ASTM D5185m         >10         <1	Aluminum	ppm	ASTM D5185m	>10	<1	<1	<1
Tin	Lead	ppm	ASTM D5185m	>10	0	0	0
Antimony         ppm         ASTM D5185m           0           Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           Boron         ppm         ASTM D5185m         0         0         11           Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0           Magnesium         ppm         ASTM D5185m         2         <1	Copper	ppm	ASTM D5185m	>50	16	2	2
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history 1         history           Boron         ppm         ASTM D5185m         0         0         11           Barium         ppm         ASTM D5185m         90         <1         17         8           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Mangaese         ppm         ASTM D5185m         0         0         0         0           Magnesium         ppm         ASTM D5185m         2         <1         2         1           Phosphorus         ppm         ASTM D5185m         2         <1         2         1           Phosphorus         ppm         ASTM D5185m         2         <1         2         1           Zinc         ppm         ASTM D5185m         2         <1         <1         0           CONTAMINANTS         method         limit/base         current         history         history           Silicon <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;10</td> <td>&lt;1</td> <td>&lt;1</td> <td>0</td>	Tin	ppm	ASTM D5185m	>10	<1	<1	0
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history 1         history           Boron         ppm         ASTM D5185m         0         0         11           Barium         ppm         ASTM D5185m         90         <1	Antimony	ppm	ASTM D5185m				0
ADDITIVES         method         limit/base         current         history 1         history           Boron         ppm         ASTM D5185m         0         0         11           Barium         ppm         ASTM D5185m         90         <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron         ppm         ASTM D5185m         0         0         11           Barium         ppm         ASTM D5185m         90         <1         17         8           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0         0           Magnesium         ppm         ASTM D5185m         90         32         76         80           Calcium         ppm         ASTM D5185m         2         <1         2         1           Phosphorus         ppm         ASTM D5185m         2         <1         2         1           Zinc         ppm         ASTM D5185m         2         <1         2         1           CONTAMINANTS         method         limit/base         current         history 1         history           Silicon         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         13         26         27           Potassium         ppm         ASTM D5185m         >20         <1         2         4 <t< td=""><td>Cadmium</td><td>ppm</td><td>ASTM D5185m</td><td></td><td>0</td><td>0</td><td>0</td></t<>	Cadmium	ppm	ASTM D5185m		0	0	0
Barium         ppm         ASTM D5185m         90         <1         17         8           Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0           Magnesium         ppm         ASTM D5185m         90         32         76         80           Calcium         ppm         ASTM D5185m         2         <1         2         1           Phosphorus         ppm         ASTM D5185m         2         3         0           Zinc         ppm         ASTM D5185m         11         3         0           CONTAMINANTS         method         limit/base         current         history         history           Silicon         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         >20         <1         2         4           Water         %         ASTM D5185m         >20         <1         2         4           Water         %         ASTM D6304         >0.05         0.020         0.021         0.023           ppm Water	ADDITIVES		method	limit/base	current	history 1	history 2
Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0           Magnesium         ppm         ASTM D5185m         90         32         76         80           Calcium         ppm         ASTM D5185m         2         <1         2         1           Phosphorus         ppm         ASTM D5185m         2         3         0           Zinc         ppm         ASTM D5185m         2         3         0           CONTAMINANTS         method         limit/base         current         history 1         history           Silicon         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         >20         <1         2         4           Water         %         ASTM D5185m         >20         <1         2         4           Water         %         ASTM D6804         >0.05         0.020         0.021         0.023           ppm Water	Boron	ppm	ASTM D5185m		0	0	11
Manganese         ppm         ASTM D5185m         0         0         0           Magnesium         ppm         ASTM D5185m         90         32         76         80           Calcium         ppm         ASTM D5185m         2         <1         2         1           Phosphorus         ppm         ASTM D5185m         2         3         0           Zinc         ppm         ASTM D5185m         2         3         0           CONTAMINANTS         method         limit/base         current         history 1         history           Silicon         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         >20         <1         2         4           Water         %         ASTM D5185m         >20         <1         2         4           Water         %         ASTM D6304         >0.05         0.020         0.021         0.023           ppm Water         ppm         ASTM D6304         >500         209.7         214.9         233.9 <tr< td=""><td>Barium</td><td>ppm</td><td>ASTM D5185m</td><td>90</td><td>&lt;1</td><td>17</td><td>8</td></tr<>	Barium	ppm	ASTM D5185m	90	<1	17	8
Magnesium         ppm         ASTM D5185m         90         32         76         80           Calcium         ppm         ASTM D5185m         2         <1         2         1           Phosphorus         ppm         ASTM D5185m         2         3         0           Zinc         ppm         ASTM D5185m         11         3         0           CONTAMINANTS         method         limit/base         current         history 1         history           Silicon         ppm         ASTM D5185m         >25         <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium         ppm         ASTM D5185m         2         <1         2         1           Phosphorus         ppm         ASTM D5185m         2         3         0           Zinc         ppm         ASTM D5185m         11         3         0           CONTAMINANTS         method         limit/base         current         history         1         history           Silicon         ppm         ASTM D5185m         >25         <1	Manganese	ppm	ASTM D5185m		0	0	0
Phosphorus         ppm         ASTM D5185m         2         3         0           Zinc         ppm         ASTM D5185m         11         3         0           CONTAMINANTS         method         limit/base         current         history 1         history           Silicon         ppm         ASTM D5185m         >25         <1	Magnesium	ppm	ASTM D5185m	90	32	76	80
Zinc         ppm         ASTM D5185m         11         3         0           CONTAMINANTS         method         limit/base         current         history 1         history           Silicon         ppm         ASTM D5185m         >25         <1	Calcium	ppm	ASTM D5185m	2	<1	2	1
CONTAMINANTS         method         limit/base         current         history 1         history           Silicon         ppm         ASTM D5185m         >25         <1	Phosphorus	ppm	ASTM D5185m		2	3	0
Silicon       ppm       ASTM D5185m       >25       <1       <1       0         Sodium       ppm       ASTM D5185m       13       26       27         Potassium       ppm       ASTM D5185m       >20       <1       2       4         Water       %       ASTM D6304       >0.05       0.020       0.021       0.023         ppm Water       ppm       ASTM D6304       >500       209.7       214.9       233.9         FLUID CLEANLINESS       method       limit/base       current       history       1       history         Particles >4μm       ASTM D7647       >1300       3215       10       10754       4866         Particles >21μm       ASTM D7647       >80       62       200       57         Particles >21μm       ASTM D7647       >20       8       41       13         Particles >38μm       ASTM D7647       >4       0       3       2         Particles >71μm       ASTM D7647       >3       0       0       0	Zinc	ppm	ASTM D5185m		11	3	0
Sodium         ppm         ASTM D5185m         13         26         27           Potassium         ppm         ASTM D5185m         >20         <1	CONTAMINANTS	3	method	limit/base	current	history 1	history 2
Potassium         ppm         ASTM D5185m         >20         <1         2         4           Water         %         ASTM D6304         >0.05         0.020         0.021         0.023           ppm Water         ppm         ASTM D6304         >500         209.7         214.9         233.9           FLUID CLEANLINESS         method         limit/base         current         history         1         history           Particles >4μm         ASTM D7647         17501         10754         4866           Particles >6μm         ASTM D7647         >1300         3215         3160         982           Particles >14μm         ASTM D7647         >80         62         200         57           Particles >21μm         ASTM D7647         >20         8         41         13           Particles >38μm         ASTM D7647         >4         0         3         2           Particles >71μm         ASTM D7647         >3         0         0         0	Silicon	ppm	ASTM D5185m	>25	<1	<1	0
Water         %         ASTM D6304 > 0.05         0.020         0.021         0.023           ppm Water         ppm ASTM D6304 > 500         209.7         214.9         233.9           FLUID CLEANLINESS method limit/base current history 1 history           Particles >4μm         ASTM D7647 ASTM D7647         17501 10754 4866         4866           Particles >6μm         ASTM D7647 > 1300 A 3215 A 3160 982         3160 982           Particles >14μm         ASTM D7647 > 80 62 A 200 57         200 57           Particles >21μm         ASTM D7647 > 20 8 A 41 13           Particles >38μm         ASTM D7647 > 4 0 3 2         2           Particles >71μm         ASTM D7647 > 3 0 0 0         0	Sodium	ppm	ASTM D5185m		13	26	27
Water         %         ASTM D6304         >0.05         0.020         0.021         0.023           ppm Water         ppm         ASTM D6304         >500         209.7         214.9         233.9           FLUID CLEANLINESS         method         limit/base         current         history 1         history           Particles >4μm         ASTM D7647         17501         10754         4866           Particles >6μm         ASTM D7647         >1300         3215         3160         982           Particles >14μm         ASTM D7647         >80         62         200         57           Particles >21μm         ASTM D7647         >20         8         41         13           Particles >38μm         ASTM D7647         >4         0         3         2           Particles >71μm         ASTM D7647         >3         0         0         0	Potassium	ppm	ASTM D5185m	>20	<1	2	4
FLUID CLEANLINESS         method         limit/base         current         history 1         history 1           Particles >4μm         ASTM D7647         17501         10754         4866           Particles >6μm         ASTM D7647         >1300         3215         3160         982           Particles >14μm         ASTM D7647         >80         62         200         57           Particles >21μm         ASTM D7647         >20         8         41         13           Particles >38μm         ASTM D7647         >4         0         3         2           Particles >71μm         ASTM D7647         >3         0         0         0	Water		ASTM D6304	>0.05	0.020	0.021	0.023
Particles >4μm         ASTM D7647         17501         10754         4866           Particles >6μm         ASTM D7647         >1300         3215         3160         982           Particles >14μm         ASTM D7647         >80         62         200         57           Particles >21μm         ASTM D7647         >20         8         41         13           Particles >38μm         ASTM D7647         >4         0         3         2           Particles >71μm         ASTM D7647         >3         0         0         0	ppm Water	ppm	ASTM D6304	>500	209.7	214.9	233.9
Particles >6μm       ASTM D7647       >1300       3215       3160       982         Particles >14μm       ASTM D7647       >80       62       200       57         Particles >21μm       ASTM D7647       >20       8       41       13         Particles >38μm       ASTM D7647       >4       0       3       2         Particles >71μm       ASTM D7647       >3       0       0	FLUID CLEANLIN	IESS	method	limit/base	current	history 1	history 2
Particles >14μm       ASTM D7647       >80       62       ≥200       57         Particles >21μm       ASTM D7647       >20       8       ▲ 41       13         Particles >38μm       ASTM D7647       >4       0       3       2         Particles >71μm       ASTM D7647       >3       0       0       0	Particles >4μm		ASTM D7647		17501	10754	4866
Particles >14μm       ASTM D7647       >80       62       ≥ 200       57         Particles >21μm       ASTM D7647       >20       8       ▲ 41       13         Particles >38μm       ASTM D7647       >4       0       3       2         Particles >71μm       ASTM D7647       >3       0       0       0	Particles >6µm		ASTM D7647	>1300	<b>3215</b>	<b>△</b> 3160	982
Particles >21μm       ASTM D7647       >20       8       ▲ 41       13         Particles >38μm       ASTM D7647       >4       0       3       2         Particles >71μm       ASTM D7647       >3       0       0       0	Particles >14µm						57
Particles >38μm       ASTM D7647       >4       0       3       2         Particles >71μm       ASTM D7647       >3       0       0       0	•		ASTM D7647	>20	8		13
Particles >71μm ASTM D7647 >3 <b>0</b> 0	•						
	•						
	Oil Cleanliness		ISO 4406 (c)	>/17/13	<u>^</u> 21/19/13	<u>▲</u> 19/15	17/13

**FLUID DEGRADATION** 

Acid Number (AN)

method

mg KOH/g ASTM D8045 0.4

limit/base

current

0.36

0.36

history 1

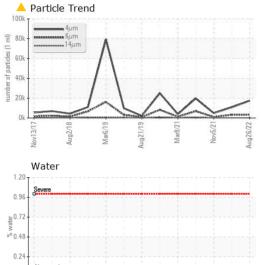
history 2

0.338

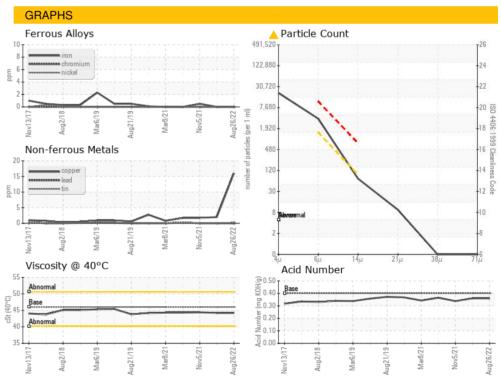


0.00

### **OIL ANALYSIS REPORT**



VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D445	46	44.2	44.2	44.4
SAMPLE IMAGE	S	method	limit/base	current	history 1	history 2
Color						
Bottom						







Certificate L2367

Laboratory Sample No. Lab Number Test Package : IND 2

**Unique Number** 

: KC102941 : 05646056 : 10140595

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received Diagnosed

: 20 Sep 2022 : 21 Sep 2022 Diagnostician : Doug Bogart **AMAZON TETERBORO** 

698 RT 46 TETERBORO, NJ USA 07608

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: