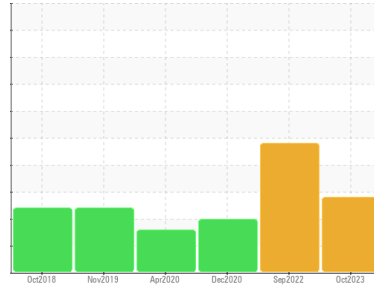


# PROBLEM SUMMARY

Sample Rating Trend



**WEAR**



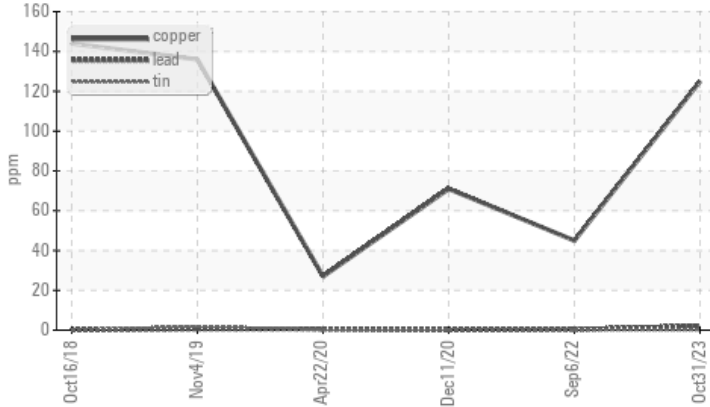
Machine Id  
**KAESER ASD 20 5808053 (S/N 1184)**

Component  
**Compressor**

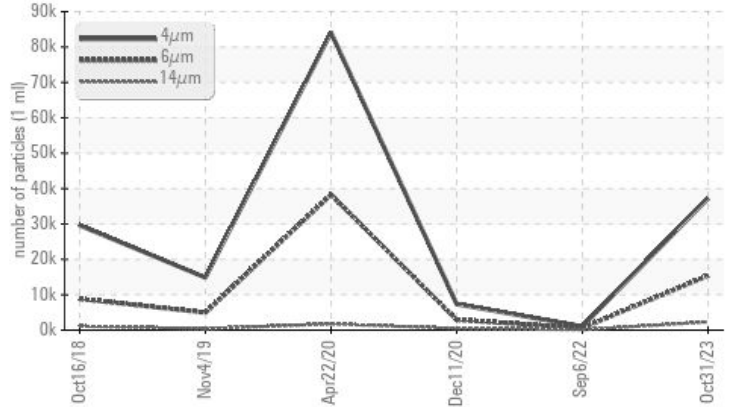
Fluid  
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Non-ferrous Metals



### ▲ 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			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL
Copper	ppm	ASTM D5185m >50	▲ <b>125</b>	45	▲ 71
Particles >6µm		ASTM D7647 >1300	▲ <b>15386</b>	570	▲ 2910
Particles >14µm		ASTM D7647 >80	▲ <b>2311</b>	▲ 97	▲ 451
Particles >21µm		ASTM D7647 >20	▲ <b>865</b>	▲ 33	▲ 127
Particles >38µm		ASTM D7647 >4	▲ <b>35</b>	▲ 5	2
Oil Cleanliness		ISO 4406 (c) >--/17/13	▲ <b>22/21/18</b>	▲ 17/16/14	▲ 19/16

Customer Id: FMCMAL  
Sample No.: KCPA000538  
Lab Number: 05996295  
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

### 06 Sep 2022 Diag: Jonathan Hester

#### WATER



Oil and filter change at the time of sampling has been noted. We recommend an early resample in 500 hours to monitor this condition. All component wear rates are normal. There is a moderate amount of particulates present in the oil. Free water present. There is a high concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 11 Dec 2020 Diag: Doug Bogart

#### WEAR



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

view report



### 22 Apr 2020 Diag: Doug Bogart

#### ISO



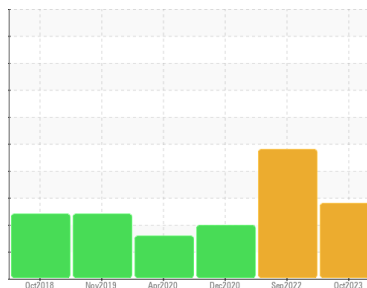
No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The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

view report



Machine Id  
**KAESER ASD 20 5808053 (S/N 1184)**

Component  
**Compressor**  
Fluid  
**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.

### ▲ 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 Number	Client Info			<b>KCPA000538</b>	KCP02234	KCP34258
Sample Date	Client Info			<b>31 Oct 2023</b>	06 Sep 2022	11 Dec 2020
Machine Age	hrs	Client Info		<b>19396</b>	16832	12692
Oil Age	hrs	Client Info		<b>0</b>	1419	3550
Oil Changed	Client Info			<b>N/A</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	<b>0</b>	1	<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>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Lead	ppm	ASTM D5185m	>10	<b>2</b>	<1	0
Copper	ppm	ASTM D5185m	>50	<b>▲ 125</b>	45	<b>▲ 71</b>
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	0
Antimony	ppm	ASTM D5185m		<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

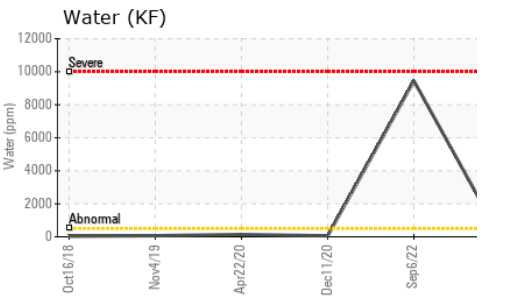
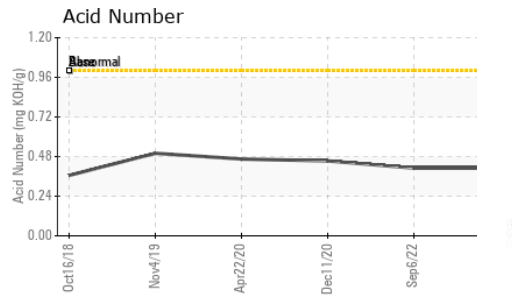
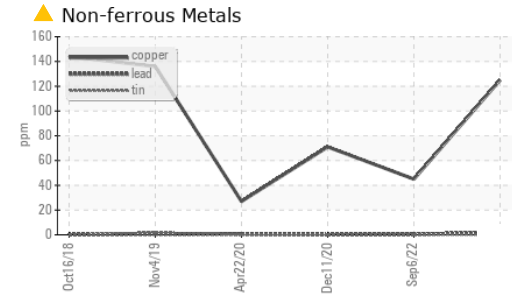
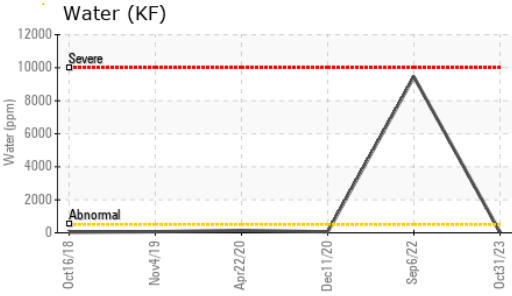
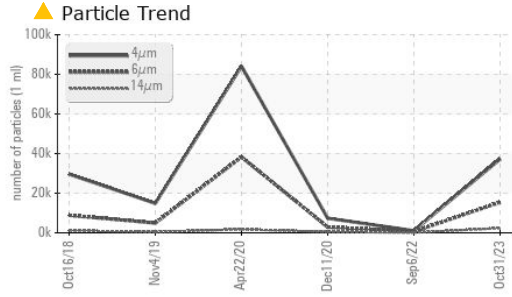
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	90	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m	100	<b>0</b>	2	0
Calcium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Phosphorus	ppm	ASTM D5185m	0	<b>0</b>	3	2
Zinc	ppm	ASTM D5185m	0	<b>12</b>	79	50
Sulfur	ppm	ASTM D5185m	23500	<b>13485</b>	17140	15229

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>&lt;1</b>	<1	0
Sodium	ppm	ASTM D5185m		<b>1</b>	0	0
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	0
Water	%	ASTM D6304	>0.05	<b>0.003</b>	<b>▲ 0.945</b>	0.005
ppm Water	ppm	ASTM D6304	>500	<b>33.3</b>	<b>▲ 9450</b>	59.8

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		<b>37225</b>	1046	7350
Particles >6µm		ASTM D7647	>1300	<b>▲ 15386</b>	570	<b>▲ 2910</b>
Particles >14µm		ASTM D7647	>80	<b>▲ 2311</b>	<b>▲ 97</b>	<b>▲ 451</b>
Particles >21µm		ASTM D7647	>20	<b>▲ 865</b>	<b>▲ 33</b>	<b>▲ 127</b>
Particles >38µm		ASTM D7647	>4	<b>▲ 35</b>	<b>▲ 5</b>	2
Particles >71µm		ASTM D7647	>3	<b>2</b>	1	0
Oil Cleanliness		ISO 4406 (c)	>--/17/13	<b>▲ 22/21/18</b>	<b>▲ 17/16/14</b>	<b>▲ 19/16</b>

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	<b>0.41</b>	0.41	0.454

# OIL ANALYSIS REPORT

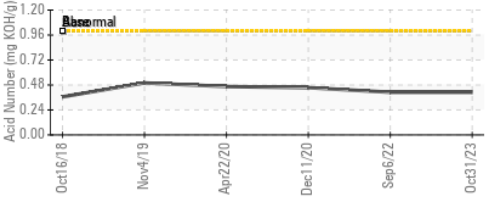
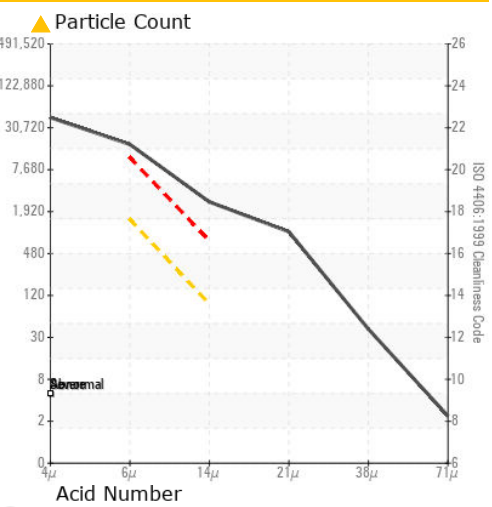
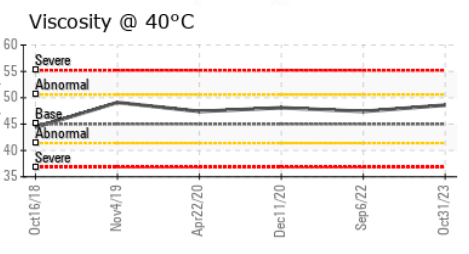
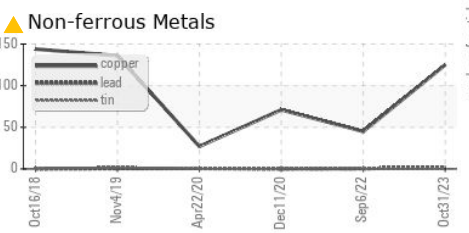
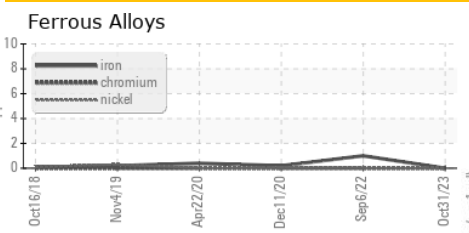


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	0.2%
Free Water	scalar	*Visual		NEG	▲ 1.0

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	48.6	47.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCPA000538 **Received** : 01 Nov 2023  
**Lab Number** : 05996295 **Diagnosed** : 03 Nov 2023  
**Unique Number** : 10724655 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**F & M CALLAHAN & SONS INC**  
 22 SHARON ST  
 MALDEN, MA  
 US 02148  
 Contact: ACCOUNTING  
 accounting@fmcallahan.com  
 T:  
 F:

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)