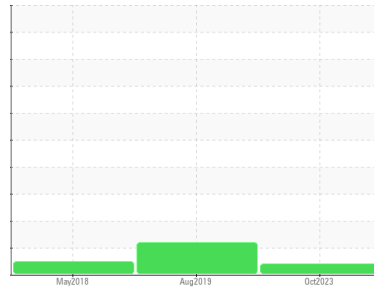




# PROBLEM SUMMARY

Sample Rating Trend



## VIS DEBRIS



Machine Id  
**KAESER SM 11 1842694 (S/N 1156)**  
 Component  
**Compressor**  
 Fluid  
**KAESER SIGMA (OEM) M-460 (--- GAL)**

### COMPONENT CONDITION SUMMARY

No relevant graphs to display

### 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. We were unable to perform a particle count due to a high concentration of particles present in this sample.

### PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ABNORMAL	NORMAL
Debris	scalar	*Visual	NONE	▲ MODER	VLITE	VLITE

Customer Id: GRALOU  
 Sample No.: KCPA007519  
 Lab Number: 05997976  
 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

Action	Status	Date	Done By	Description
Alert	---	---	?	We were unable to perform a particle count due to a high concentration of particles present in this sample.

## HISTORICAL DIAGNOSIS

### 30 Aug 2019 Diag: Don Baldrige

ISO



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. 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 acceptable for the time in service.

view report



### 22 May 2018 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.

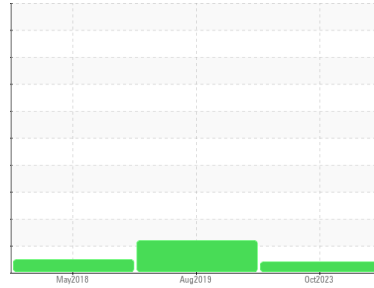
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



VIS DEBRIS



Machine Id  
**KAESER SM 11 1842694 (S/N 1156)**

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. We were unable to perform a particle count due to a high concentration of particles present in this sample.

### Wear

All component wear rates are normal.

### ▲ Contamination

Moderate concentration of visible dirt/debris 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>KCPA007519</b>	KCP23510	KCP06480
Sample Date	Client Info		<b>05 Oct 2023</b>	30 Aug 2019	22 May 2018
Machine Age	hrs	Client Info	<b>14971</b>	13963	13467
Oil Age	hrs	Client Info	<b>0</b>	500	600
Oil Changed	Client Info		<b>N/A</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	<b>2</b>	5	4
Chromium	ppm	ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m >3	<b>0</b>	<1	0
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>0</b>	<1	0
Lead	ppm	ASTM D5185m >10	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m >50	<b>12</b>	5	7
Tin	ppm	ASTM D5185m >10	<b>&lt;1</b>	0	0
Antimony	ppm	ASTM D5185m	<b>---</b>	2	0
Vanadium	ppm	ASTM D5185m	<b>0</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>	<1	0
Molybdenum	ppm	ASTM D5185m 0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>1</b>	1	1
Magnesium	ppm	ASTM D5185m 100	<b>18</b>	44	5
Calcium	ppm	ASTM D5185m 0	<b>1</b>	<1	0
Phosphorus	ppm	ASTM D5185m 0	<b>1</b>	<1	0
Zinc	ppm	ASTM D5185m 0	<b>13</b>	25	12
Sulfur	ppm	ASTM D5185m 23500	<b>17214</b>	15430	10292

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>&lt;1</b>	<1	0
Sodium	ppm	ASTM D5185m	<b>8</b>	12	4
Potassium	ppm	ASTM D5185m >20	<b>0</b>	1	<1
Water	%	ASTM D6304 >0.05	<b>0.012</b>	0.028	0.017
ppm Water	ppm	ASTM D6304 >500	<b>121.7</b>	289.6	170

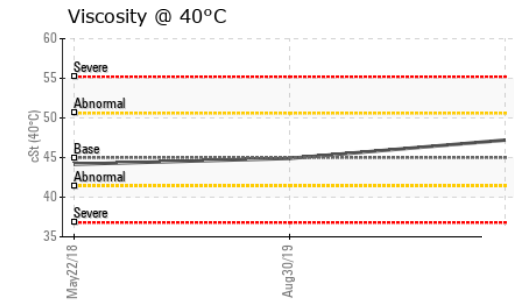
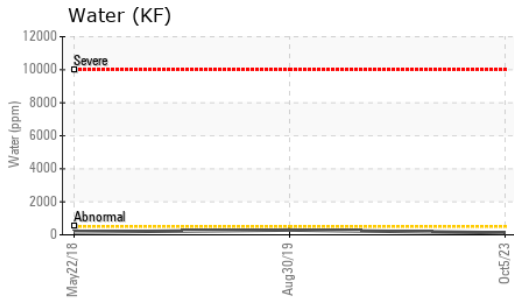
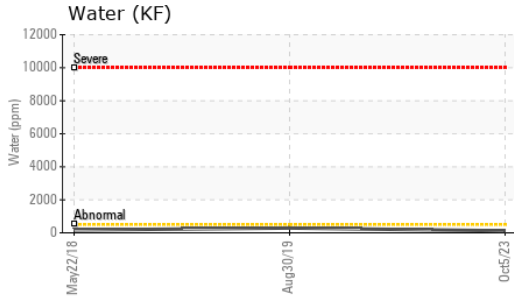
## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>---</b>	12051	3131
Particles >6µm	ASTM D7647 >1300		<b>---</b>	▲ 3417	683
Particles >14µm	ASTM D7647 >80		<b>---</b>	▲ 274	77
Particles >21µm	ASTM D7647 >20		<b>---</b>	▲ 78	20
Particles >38µm	ASTM D7647 >4		<b>---</b>	4	0
Particles >71µm	ASTM D7647 >3		<b>---</b>	0	0
Oil Cleanliness	ISO 4406 (c) >--/17/13		<b>---</b>	▲ 19/15	17/13

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 1.0	<b>0.37</b>	0.372	0.373

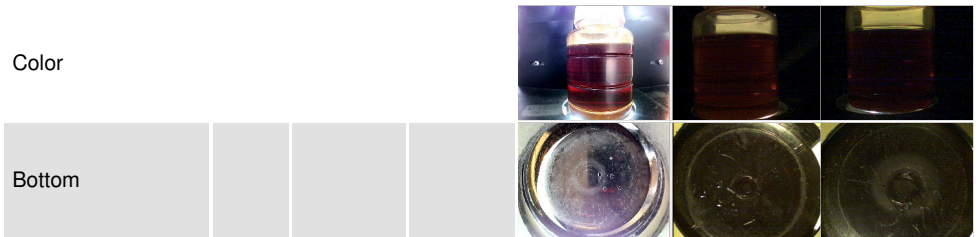
# OIL ANALYSIS REPORT



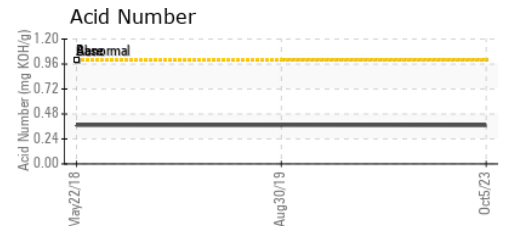
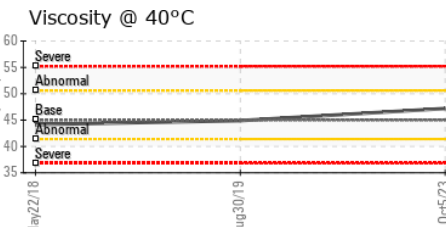
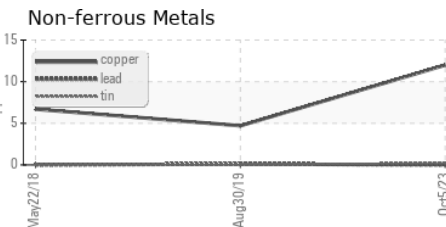
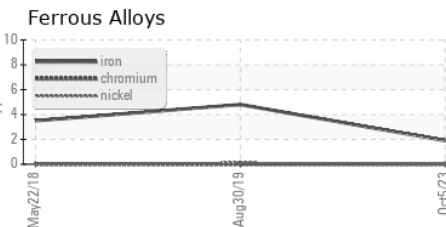
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	▲ MODER	VLITE	VLITE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	47.2	44.9

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCPA007519 **Received** : 03 Nov 2023  
**Lab Number** : 05997976 **Diagnosed** : 06 Nov 2023  
**Unique Number** : 10726336 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**GRACE BY DESIGN**  
 128 E WOODLAWN AVE  
 LOUISVILLE, KY  
 US 40214  
 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: