

# PROBLEM SUMMARY

## Sample Rating Trend

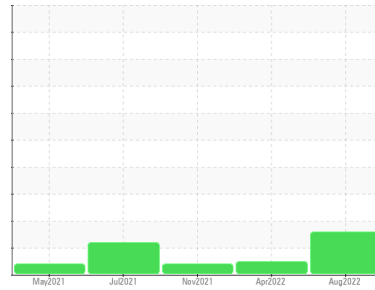
ISO



Machine Id  
**KAESER SM 10 6795059 (S/N 1122)**

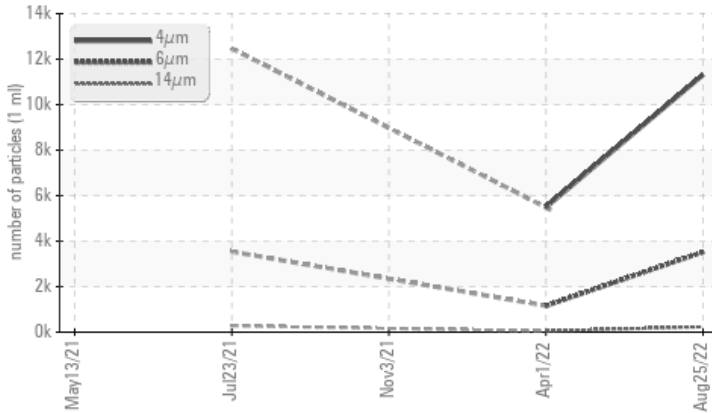
Component  
**Compressor**

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



## COMPONENT CONDITION SUMMARY

### ▲ Particle Trend



## 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	NORMAL	ABNORMAL
Particles >6µm	ASTM D7647	>1300	▲ 3521	1156	---
Particles >14µm	ASTM D7647	>80	▲ 236	49	---
Particles >21µm	ASTM D7647	>20	▲ 38	10	---
Oil Cleanliness	ISO 4406 (c)	>--/17/13	▲ 21/19/15	17/13	---

Customer Id: HTHGAH  
Sample No.: KCP33382  
Lab Number: 05633642  
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](mailto:dougb@wearcheckusa.com)

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
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

### 01 Apr 2022 Diag: Doug Bogart

NORMAL



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 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



### 03 Nov 2021 Diag: Doug Bogart

VIS DEBRIS



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. We were unable to perform a particle count due to a high concentration of particles present in this sample. All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 23 Jul 2021 Diag: Don Baldrige

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

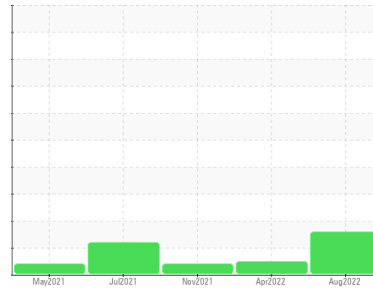




Machine Id  
**KAESER SM 10 6795059 (S/N 1122)**

Component  
**Compressor**

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



## 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 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	history 1	history 2
Sample Number			<b>KCP33382</b>	KCP45242	KCP39466
Sample Date			<b>25 Aug 2022</b>	01 Apr 2022	03 Nov 2021
Machine Age	hrs		<b>28272</b>	24793	20994
Oil Age	hrs		<b>3479</b>	3799	2000
Oil Changed			<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	NORMAL	ABNORMAL

## WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm ASTM D5185m	>50	<b>&lt;1</b>	<1	<1
Chromium	ppm ASTM D5185m	>10	<b>0</b>	0	0
Nickel	ppm ASTM D5185m	>3	<b>0</b>	0	<1
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>&lt;1</b>	<1	0
Lead	ppm ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Copper	ppm ASTM D5185m	>50	<b>9</b>	7	4
Tin	ppm ASTM D5185m	>10	<b>&lt;1</b>	0	<1
Antimony	ppm ASTM D5185m		<b>---</b>	---	0
Vanadium	ppm ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm ASTM D5185m	0	<b>0</b>	<1	0
Barium	ppm ASTM D5185m	90	<b>58</b>	45	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>51</b>	64	13
Calcium	ppm ASTM D5185m	0	<b>3</b>	3	0
Phosphorus	ppm ASTM D5185m	0	<b>3</b>	9	<1
Zinc	ppm ASTM D5185m	0	<b>9</b>	3	10
Sulfur	ppm ASTM D5185m	23500	<b>19890</b>	17050	16516

## CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185m	>25	<b>&lt;1</b>	<1	0
Sodium	ppm ASTM D5185m		<b>19</b>	25	3
Potassium	ppm ASTM D5185m	>20	<b>5</b>	2	<1
Water	% ASTM D6304	>0.05	<b>0.014</b>	0.014	0.013
ppm Water	ppm ASTM D6304	>500	<b>147.5</b>	140.3	137.3

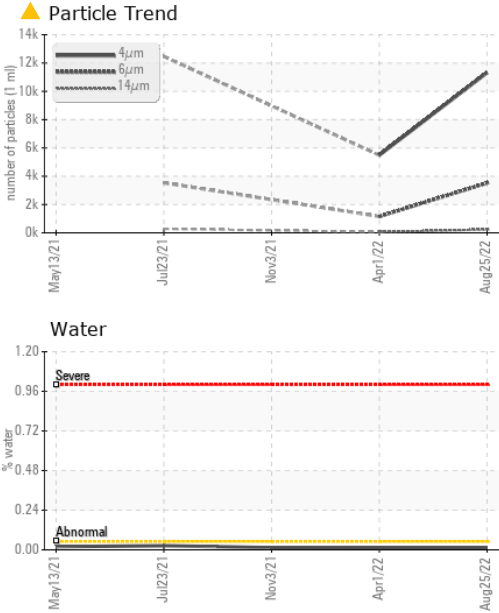
## FLUID CLEANLINESS

	method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647		<b>11309</b>	5484	---
Particles >6µm	ASTM D7647	>1300	<b>▲ 3521</b>	1156	---
Particles >14µm	ASTM D7647	>80	<b>▲ 236</b>	49	---
Particles >21µm	ASTM D7647	>20	<b>▲ 38</b>	10	---
Particles >38µm	ASTM D7647	>4	<b>3</b>	0	---
Particles >71µm	ASTM D7647	>3	<b>1</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>--/17/13	<b>▲ 21/19/15</b>	17/13	---

## FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Acid Number (AN)	mg KOH/g ASTM D8045	1.0	<b>0.30</b>	0.30	0.392

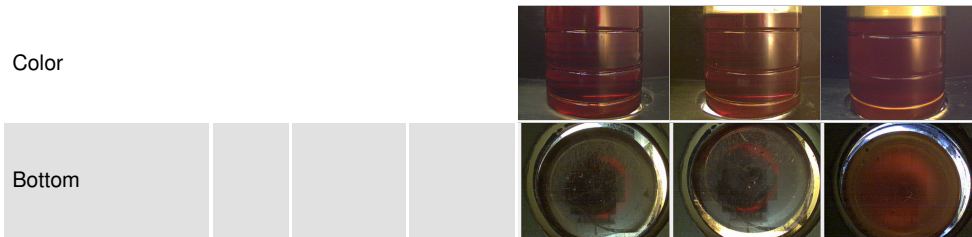
# OIL ANALYSIS REPORT



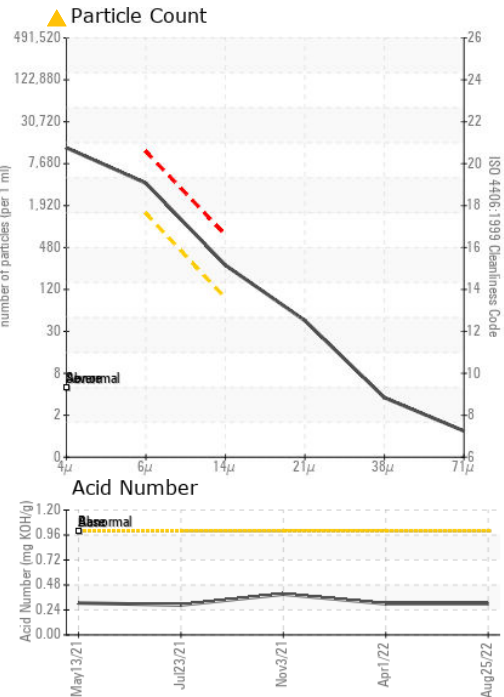
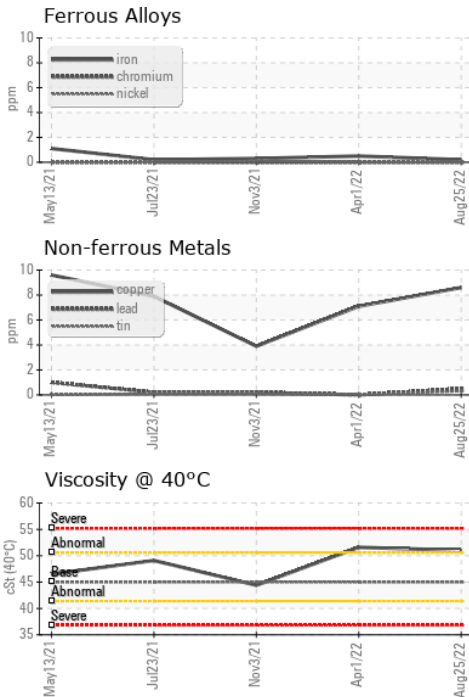
PARAMETER	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

PARAMETER	method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D445	45	51.0	51.6

PARAMETER	method	limit/base	current	history 1	history 2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCP33382 **Received** : 02 Sep 2022  
**Lab Number** : 05633642 **Diagnosed** : 06 Sep 2022  
**Unique Number** : 10118163 **Diagnostician** : Doug Bogart  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**THE H.T. HACKNEY COMPANY**  
 875 TAYLOR STATION RD  
 GAHANNAH, OH  
 USA 43230  
 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: