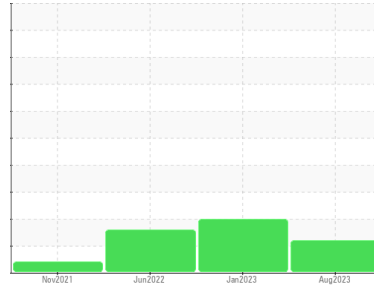




# PROBLEM SUMMARY

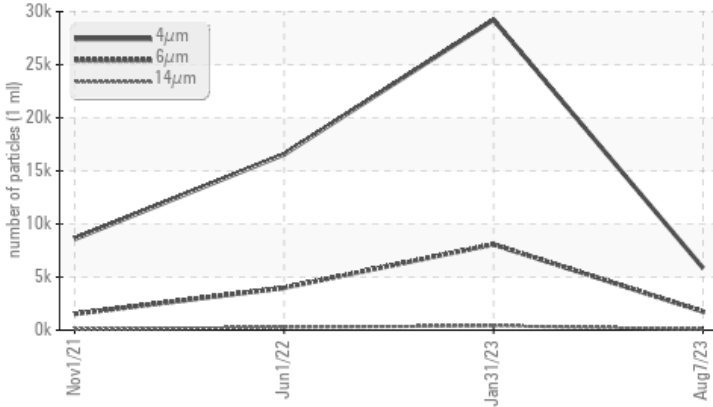
Sample Rating Trend



Machine Id  
**KAESER SM 15 3937894 (S/N 1150)**  
 Component  
**Compressor**  
 Fluid  
**KAESER SIGMA (OEM) M-460 (--- GAL)**

## COMPONENT CONDITION SUMMARY

▲ 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			ATTENTION	ABNORMAL	ABNORMAL
Particles >6µm	ASTM D7647	>1300	▲ 1753	▲ 8073	▲ 3983
Particles >14µm	ASTM D7647	>80	▲ 82	▲ 407	▲ 271
Oil Cleanliness	ISO 4406 (c)	>--/17/13	▲ 20/18/14	▲ 22/20/16	▲ 21/19/15

Customer Id: ASPATL  
 Sample No.: KCPA005968  
 Lab Number: 05926748  
 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

### 31 Jan 2023 Diag: Jonathan Hester

#### VISCOSITY



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 oil viscosity is higher than normal. The AN level is acceptable for this fluid.

view report



### 01 Jun 2022 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



### 01 Nov 2021 Diag: Don Baldrige

#### ISO



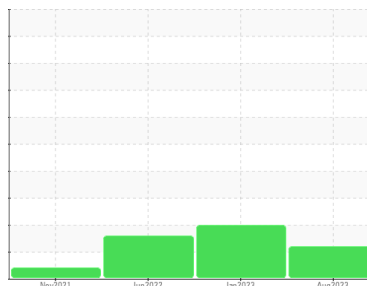
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



Machine Id  
**KAESER SM 15 3937894 (S/N 1150)**

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

All component wear rates are normal.

### Contamination

There is a moderate 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>KCPA005968</b>	KCP54690	KCP40438
Sample Date	Client Info			<b>07 Aug 2023</b>	31 Jan 2023	01 Jun 2022
Machine Age	hrs	Client Info		<b>34331</b>	33566	32154
Oil Age	hrs	Client Info		<b>0</b>	2299	887
Oil Changed	Client Info			<b>N/A</b>	Changed	Not Chngd
Sample Status				<b>ATTENTION</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>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>0</b>	<1	<1
Lead	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>50	<b>6</b>	8	2
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185m		<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0

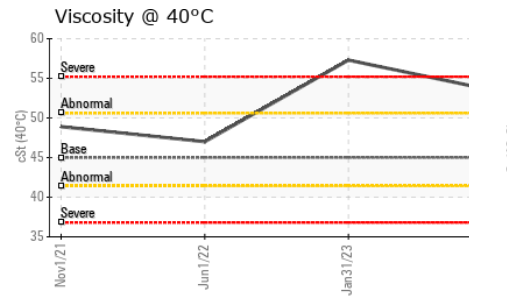
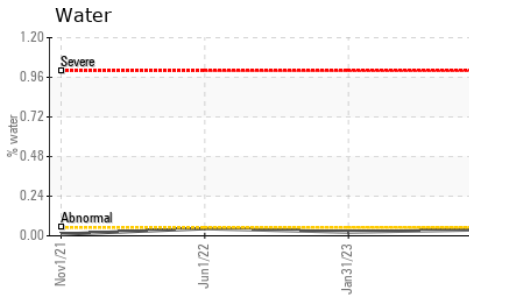
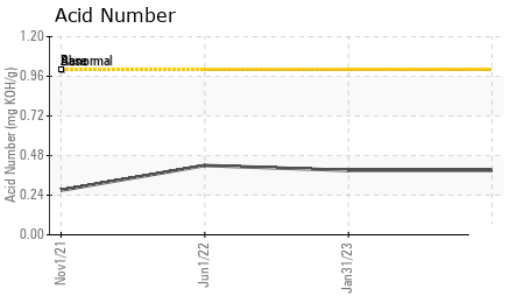
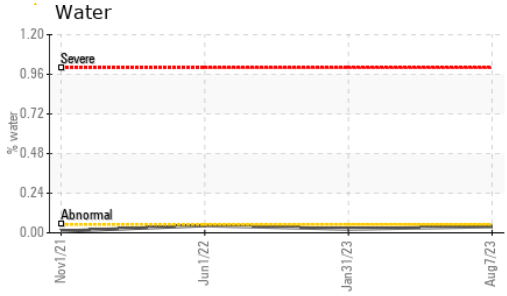
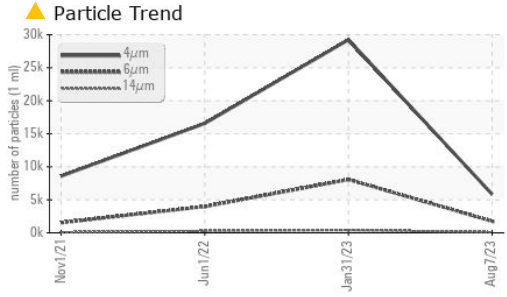
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	90	<b>4</b>	10	62
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	100	<b>87</b>	77	91
Calcium	ppm	ASTM D5185m	0	<b>&lt;1</b>	1	2
Phosphorus	ppm	ASTM D5185m	0	<b>4</b>	10	0
Zinc	ppm	ASTM D5185m	0	<b>10</b>	23	3
Sulfur	ppm	ASTM D5185m	23500	<b>24244</b>	19503	21761

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>&lt;1</b>	<1	0
Sodium	ppm	ASTM D5185m		<b>26</b>	20	4
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	4	1
Water	%	ASTM D6304	>0.05	<b>0.038</b>	0.023	0.044
ppm Water	ppm	ASTM D6304	>500	<b>383.0</b>	234.0	445.2

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		<b>5851</b>	29236	16564
Particles >6µm		ASTM D7647	>1300	<b>▲ 1753</b>	▲ 8073	▲ 3983
Particles >14µm		ASTM D7647	>80	<b>▲ 82</b>	▲ 407	▲ 271
Particles >21µm		ASTM D7647	>20	<b>16</b>	▲ 65	▲ 69
Particles >38µm		ASTM D7647	>4	<b>0</b>	3	3
Particles >71µm		ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>--/17/13	<b>▲ 20/18/14</b>	▲ 22/20/16	▲ 21/19/15

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	<b>0.39</b>	0.39	0.42

# OIL ANALYSIS REPORT

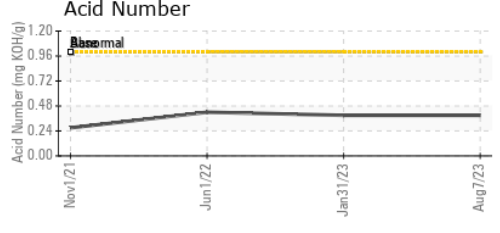
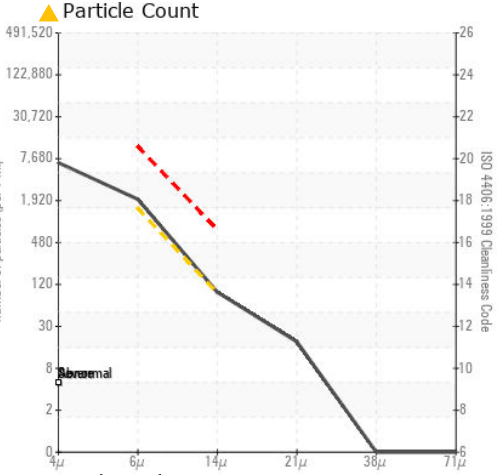
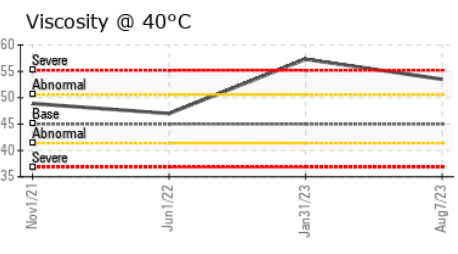
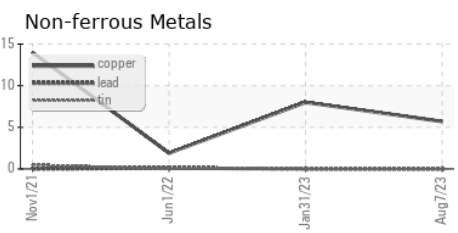
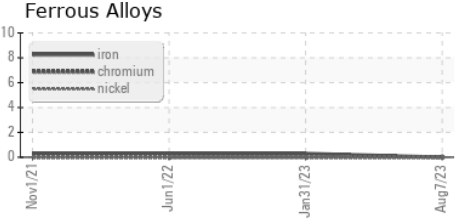


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	53.5	57.3

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KCPA005968 **Received** : 16 Aug 2023  
**Lab Number** : 05926748 **Diagnosed** : 18 Aug 2023  
**Unique Number** : 10606695 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

**ASPEN REFRIGERATION**  
 5211 IND CT SC  
 ATLANTA, GA  
 US 30339  
 Contact: BRIAN LORD  
 BRIANLORD@ASPENREFRIGERANTS.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)