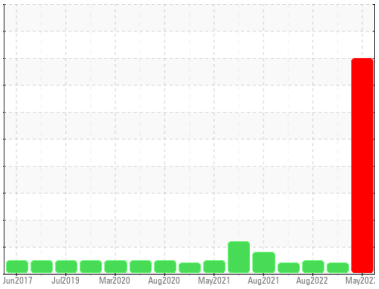
PROBLEM SUMMARY

Sample Rating Trend

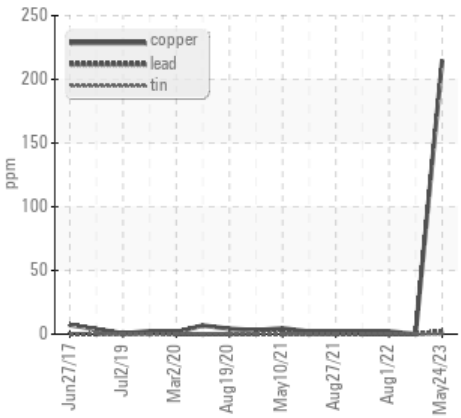


WEAR

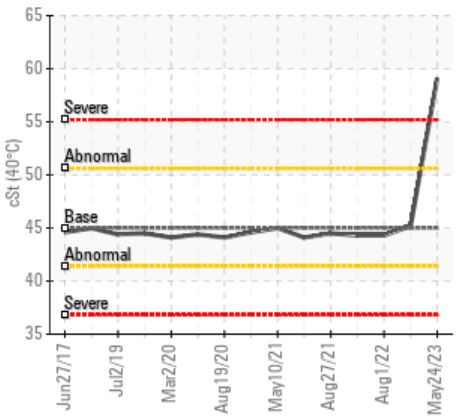
Machine Id
KAESER SK 20 3765919 (S/N 1492)
Component
Compressor
Fluid
KAESER SIGMA (OEM) M-460 (--- GAL)

COMPONENT CONDITION SUMMARY

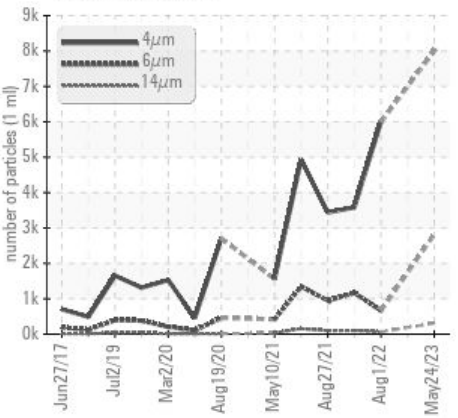
▲ Non-ferrous Metals



▲ Viscosity @ 40°C



▲ Particle Trend



RECOMMENDATION

The filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample in 500 hours to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	NORMAL
Copper	ppm	ASTM D5185m	>50	▲ **215**	0	2
Particles >6µm		ASTM D7647	>1300	▲ **2815**	---	664
Particles >14µm		ASTM D7647	>80	▲ **309**	---	61
Particles >21µm		ASTM D7647	>20	▲ **76**	---	20
Oil Cleanliness		ISO 4406 (c)	>--/17/13	▲ **20/19/15**	---	20/17/13
Visc @ 40°C	cSt	ASTM D445	45	▲ **59.1**	45.2	44.3

Customer Id: ATCFRE
Sample No.: KCPA001873
Lab Number: 05874478
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@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
Inspect Wear Source	MISSED	Dec 20 2023	?	We advise that you inspect for the source(s) of wear.

HISTORICAL DIAGNOSIS

VIS DEBRIS

28 Mar 2023 Diag: Don Baldridge
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.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

NORMAL

01 Aug 2022 Diag: Don Baldridge
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

ISO

08 Nov 2021 Diag: Don Baldridge
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 moderate 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

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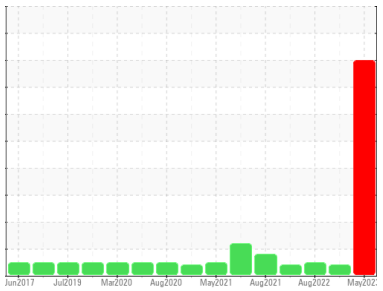
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
KAESER SK 20 3765919 (S/N 1492)
Component
Compressor
Fluid
KAESER SIGMA (OEM) M-460 (--- GAL)

DIAGNOSIS

▲ Recommendation
The filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample in 500 hours to monitor this condition.

▲ Wear
The copper level is severe.

▲ Contamination
There is a high amount of particulates present in the oil.

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KCPA001873**	KCPA000181	KCP49793
Sample Date		Client Info		**24 May 2023**	28 Mar 2023	01 Aug 2022
Machine Age	hrs	Client Info		**99999**	99999	96989
Oil Age	hrs	Client Info		**0**	0	4861
Oil Changed		Client Info		**N/A**	N/A	Not Changd
Sample Status				**SEVERE**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**2**	0	<1
Chromium	ppm	ASTM D5185m	>10	**<1**	0	0
Nickel	ppm	ASTM D5185m	>3	**<1**	0	0
Titanium	ppm	ASTM D5185m	>3	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>10	**<1**	<1	2
Lead	ppm	ASTM D5185m	>10	**3**	0	0
Copper	ppm	ASTM D5185m	>50	▲ **215**	0	2
Tin	ppm	ASTM D5185m	>10	**<1**	0	<1
Antimony	ppm	ASTM D5185m		**---**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	0
Barium	ppm	ASTM D5185m	90	**0**	76	8
Molybdenum	ppm	ASTM D5185m	0	**<1**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	100	**39**	85	42
Calcium	ppm	ASTM D5185m	0	**13**	2	<1
Phosphorus	ppm	ASTM D5185m	0	**23**	0	1
Zinc	ppm	ASTM D5185m	0	**330**	0	2
Sulfur	ppm	ASTM D5185m	23500	**23240**	22099	17291

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**2**	<1	<1
Sodium	ppm	ASTM D5185m		**7**	20	8
Potassium	ppm	ASTM D5185m	>20	**3**	0	2
Water	%	ASTM D6304	>0.05	**0.025**	0.015	0.018
ppm Water	ppm	ASTM D6304	>500	**254.9**	155.3	186.8

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**8003**	---	5998
Particles >6µm		ASTM D7647	>1300	▲ **2815**	---	664
Particles >14µm		ASTM D7647	>80	▲ **309**	---	61
Particles >21µm		ASTM D7647	>20	▲ **76**	---	20
Particles >38µm		ASTM D7647	>4	**1**	---	2
Particles >71µm		ASTM D7647	>3	**0**	---	1
Oil Cleanliness		ISO 4406 (c)	>--/17/13	▲ **20/19/15**	---	20/17/13

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	**0.49**	0.43	0.37

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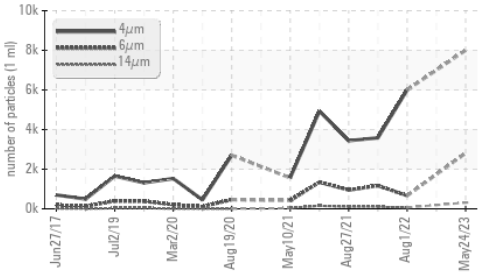
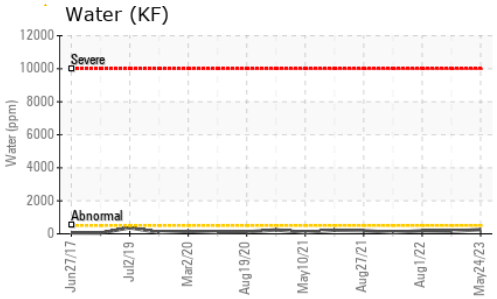
OIL ANALYSIS REPORT

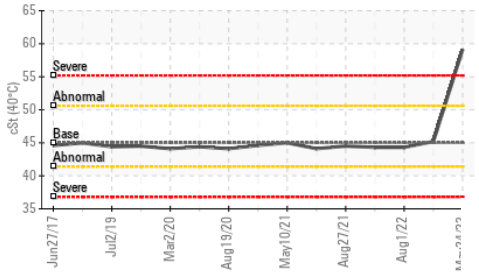
Particle Trend



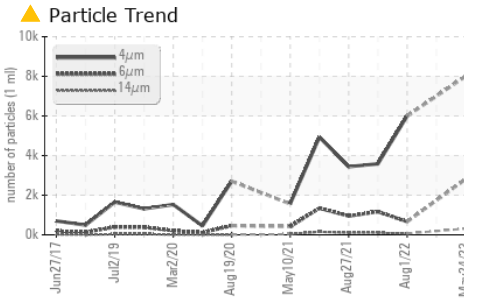
Water (KF)



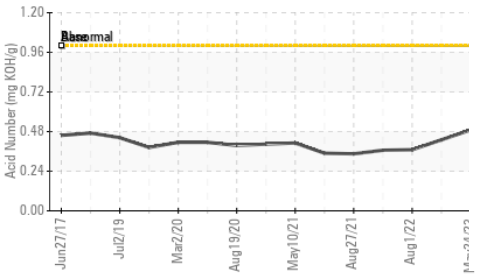
Viscosity @ 40°C



Particle Trend

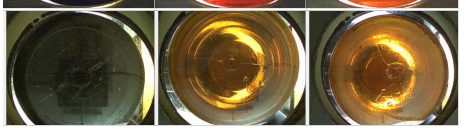


Acid Number



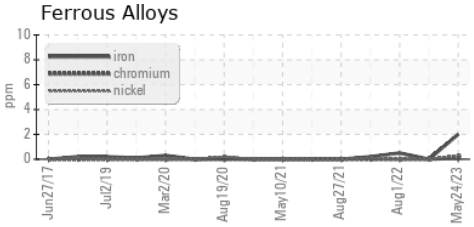
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**LIGHT**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**LIGHT**	▲ MODER	LIGHT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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	▲ **59.1**	45.2	44.3

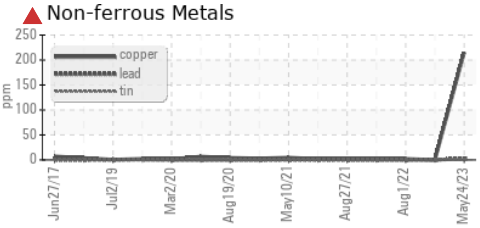
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

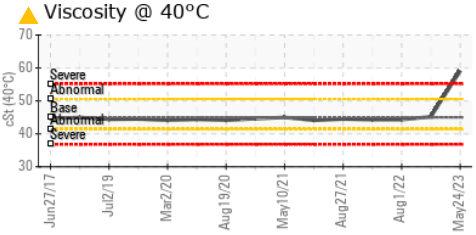
Ferrous Alloys



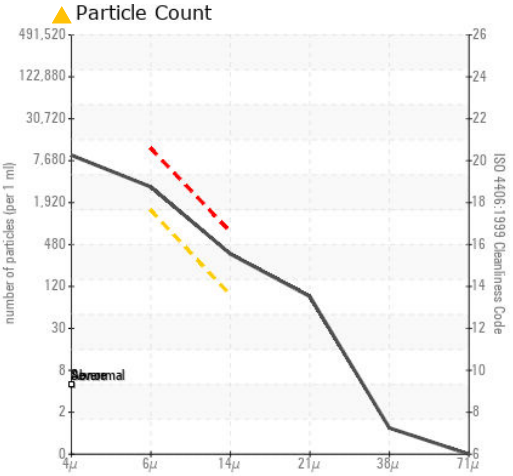
Non-ferrous Metals



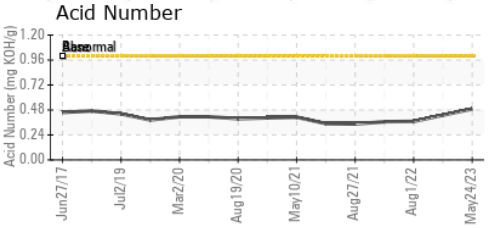
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA001873 **Received** : 15 Jun 2023
Lab Number : 05874478 **Tested** : 20 Jun 2023
Unique Number : 10519581 **Diagnosed** : 20 Jun 2023 - Jonathan Hester
Test Package : IND 2 (Additional Tests: KF, PrtCount)

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)

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