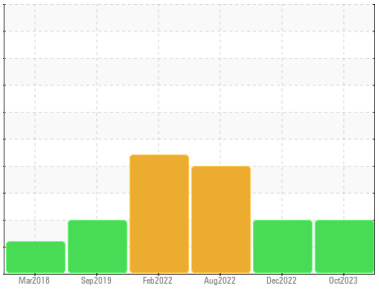
PROBLEM SUMMARY

Sample Rating Trend

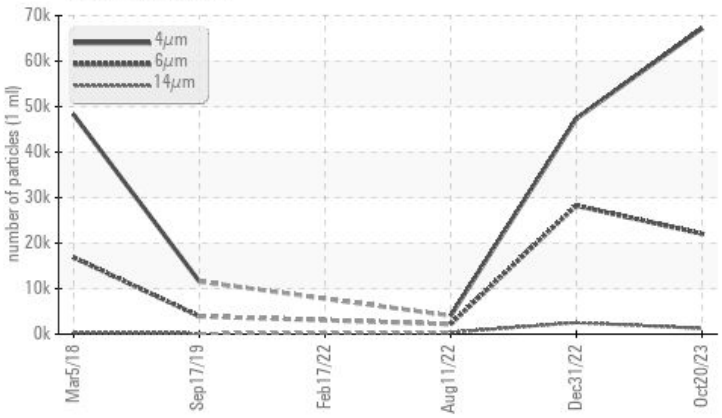


ISO

Machine Id
KAESER SX 5 4443272 (S/N 1279)
Component
Compressor
Fluid
KAESER SIGMA (OEM) S-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				**ABNORMAL**	ABNORMAL	ABNORMAL
Particles >6µm		ASTM D7647	>1300	▲ **22070**	▲ 28242	▲ 2197
Particles >14µm		ASTM D7647	>80	▲ **1262**	▲ 2527	▲ 374
Particles >21µm		ASTM D7647	>20	▲ **275**	▲ 334	▲ 126
Particles >38µm		ASTM D7647	>4	▲ **10**	▲ 13	▲ 19
Oil Cleanliness		ISO 4406 (c)	>--/17/13	▲ **23/22/17**	▲ 23/22/19	▲ 19/18/16

Customer Id: PHIMIA
Sample No.: KC06006994
Lab Number: 06006994
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

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

31 Dec 2022 Diag: Jonathan Hester

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 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

11 Aug 2022 Diag: Jonathan Hester

WATER

We recommend you service the filters on this component. We advise that you stop the unit and follow the water drain-off procedure for this component. We recommend an early resample in 500 hours to monitor this condition.All component wear rates are normal. There is a high amount of particulates present in the oil. Free water present. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

17 Feb 2022 Diag: Don Baldridge

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. 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. There is a moderate concentration of water present in the oil. Free water present. The AN level is acceptable for this fluid.

view report

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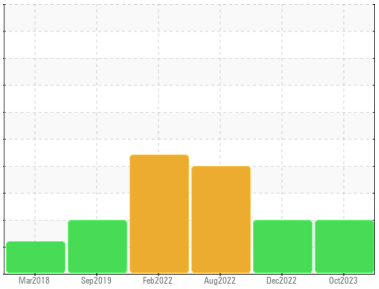
OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
KAESER SX 5 4443272 (S/N 1279)
Component
Compressor
Fluid
KAESER SIGMA (OEM) S-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 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		**KC06006994**	KC106890	KC87946
Sample Date		Client Info		**20 Oct 2023**	31 Dec 2022	11 Aug 2022
Machine Age	hrs	Client Info		**30139**	24617	22432
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	Changed	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**<1**	<1	3
Chromium	ppm	ASTM D5185m	>10	**<1**	0	0
Nickel	ppm	ASTM D5185m	>3	**0**	0	0
Titanium	ppm	ASTM D5185m	>3	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>10	**1**	0	<1
Lead	ppm	ASTM D5185m	>10	**0**	0	0
Copper	ppm	ASTM D5185m	>50	**12**	8	12
Tin	ppm	ASTM D5185m	>10	**0**	0	0
Antimony	ppm	ASTM D5185m		**---**	---	---
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	0
Barium	ppm	ASTM D5185m	90	**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**0**	0	0
Magnesium	ppm	ASTM D5185m	90	**2**	2	1
Calcium	ppm	ASTM D5185m	2	**0**	0	0
Phosphorus	ppm	ASTM D5185m		**8**	16	1
Zinc	ppm	ASTM D5185m		**0**	0	11

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**0**	0	0
Sodium	ppm	ASTM D5185m		**<1**	<1	0
Potassium	ppm	ASTM D5185m	>20	**1**	2	1
Water	%	ASTM D6304	>0.05	**0.005**	0.009	0.048
ppm Water	ppm	ASTM D6304	>500	**57.9**	96.0	480

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**67196**	47376	4032
Particles >6µm		ASTM D7647	>1300	▲ **22070**	▲ 28242	▲ 2197
Particles >14µm		ASTM D7647	>80	▲ **1262**	▲ 2527	▲ 374
Particles >21µm		ASTM D7647	>20	▲ **275**	▲ 334	▲ 126
Particles >38µm		ASTM D7647	>4	▲ **10**	▲ 13	▲ 19
Particles >71µm		ASTM D7647	>3	**1**	0	▲ 2
Oil Cleanliness		ISO 4406 (c)	>--/17/13	▲ **23/22/17**	▲ 23/22/19	▲ 19/18/16

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	**0.26**	0.34	0.34

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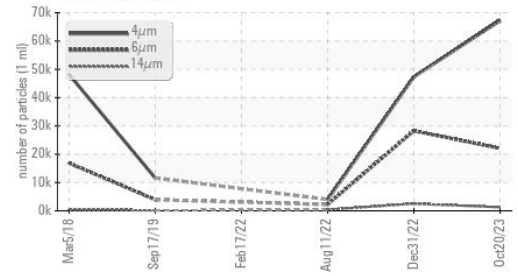
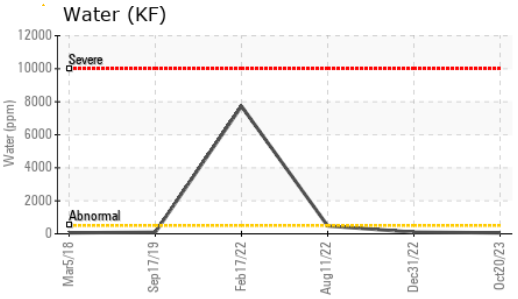
OIL ANALYSIS REPORT

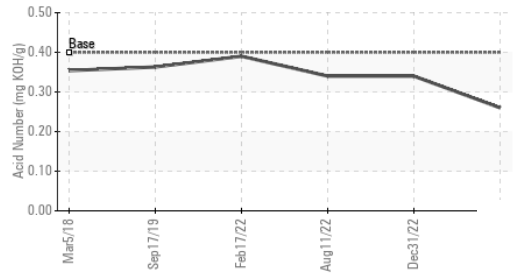
Particle Trend



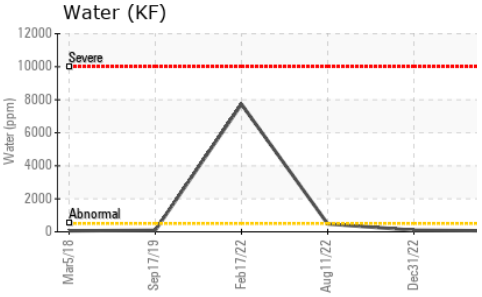
Water (KF)



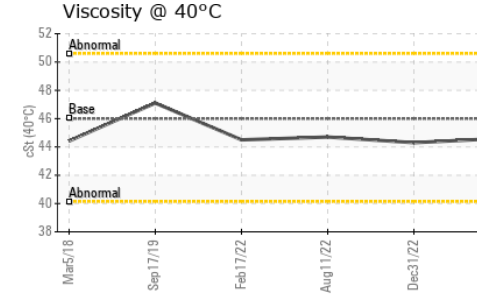
Acid Number



Water (KF)

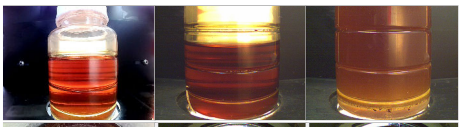
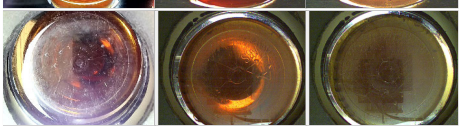


Viscosity @ 40°C



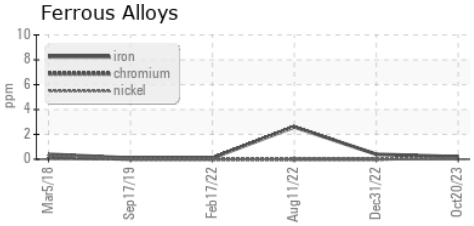
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	LIGHT
Sand/Dirt	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	0.2%
Free Water	scalar	*Visual		**NEG**	NEG	▲ 2.0

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	**44.6**	44.3	44.7

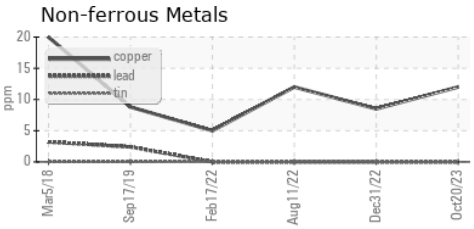
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

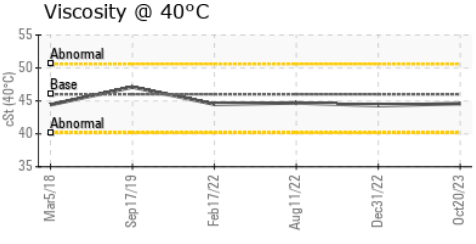
Ferrous Alloys



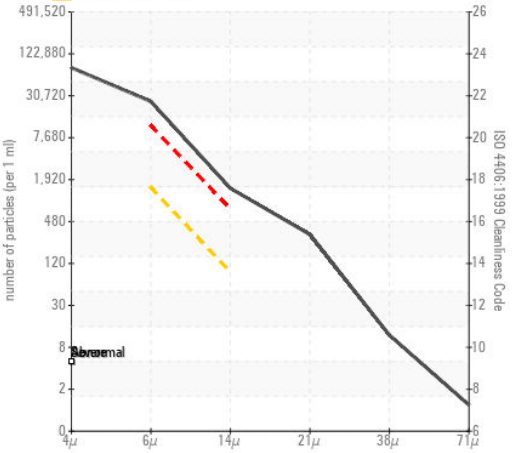
Non-ferrous Metals



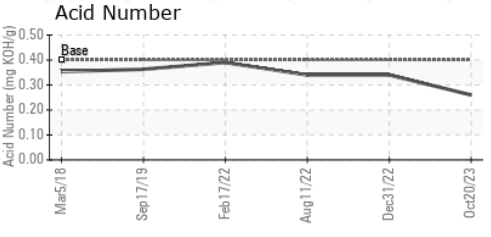
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KC06006994
Lab Number : 06006994
Unique Number : 10740756
Test Package : IND 2

Received : 14 Nov 2023
Diagnosed : 15 Nov 2023
Diagnostician : Doug Bogart

PHILLIP & PATRICIA FROST MUSEUM
1101 BISCAYNE BLVD
MIAMI, FL
US 33132
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: