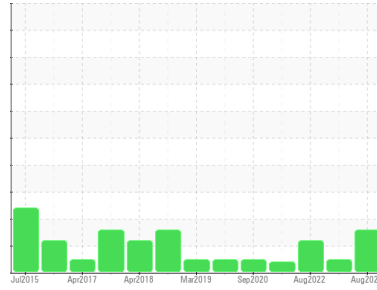




PROBLEM SUMMARY

Sample Rating Trend



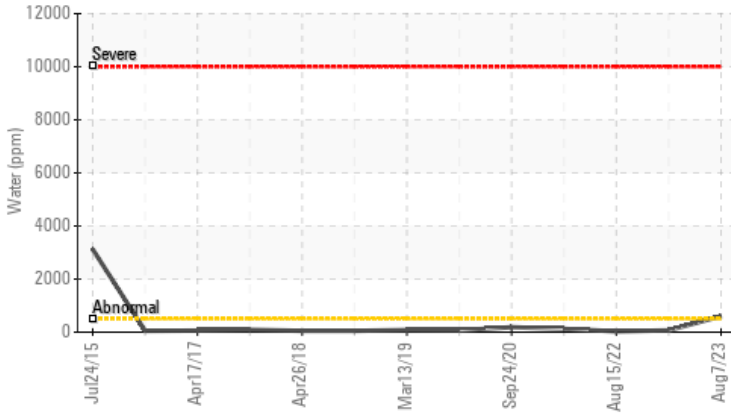
WATER



Machine Id
KAESER CSD 100 4878914 (S/N 1154)
 Component
Compressor
 Fluid
KAESER SIGMA (OEM) S-460 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Water (KF)



RECOMMENDATION

We were unable to perform a particle count on this sample. 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.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	ATTENTION
Water	%	ASTM D6304	>0.05	▲ 0.060	0.006	0.003
ppm Water	ppm	ASTM D6304	>500	▲ 601.9	68.6	32.3

Customer Id: MAHRUS
 Sample No.: KCPA002691
 Lab Number: 05962231
 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

To change component or sample information:
 Customer Service +1 1-800-237-1369
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

14 Mar 2023 Diag: Don Baldrige

NORMAL



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



15 Aug 2022 Diag: Angela Borella

ISO



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 silt (particulates < 14 microns in size) 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



01 Dec 2021 Diag: Angela Borella

ISO



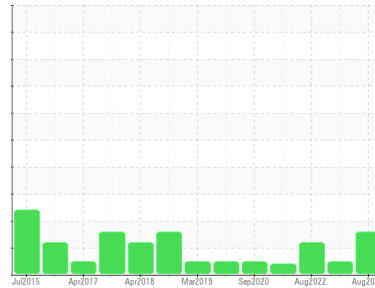
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the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

view report



OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
KAESER CSD 100 4878914 (S/N 1154)

Component

Compressor

Fluid

KAESER SIGMA (OEM) S-460 (--- GAL)

DIAGNOSIS

▲ Recommendation

We were unable to perform a particle count on this sample. 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.

Wear

All component wear rates are normal.

▲ Contamination

There is a light concentration of water present in the oil.

Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		KCPA002691	KCPA001369	KCP48329
Sample Date	Client Info		07 Aug 2023	14 Mar 2023	15 Aug 2022
Machine Age	hrs	Client Info	64205	60726	56987
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	Not Changd
Sample Status			ABNORMAL	NORMAL	ATTENTION

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	0	<1	0
Chromium	ppm	ASTM D5185m >10	0	0	0
Nickel	ppm	ASTM D5185m >3	0	<1	0
Titanium	ppm	ASTM D5185m >3	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >10	<1	1	1
Lead	ppm	ASTM D5185m >10	0	0	<1
Copper	ppm	ASTM D5185m >50	8	6	9
Tin	ppm	ASTM D5185m >10	0	<1	<1
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	0	<1

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	<1	0	0
Magnesium	ppm	ASTM D5185m 90	2	2	<1
Calcium	ppm	ASTM D5185m 2	2	6	0
Phosphorus	ppm	ASTM D5185m	0	18	9
Zinc	ppm	ASTM D5185m	0	2	0
Sulfur	ppm	ASTM D5185m	13899	11975	13893

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<1	<1	1
Sodium	ppm	ASTM D5185m	6	0	0
Potassium	ppm	ASTM D5185m >20	<1	<1	1
Water	%	ASTM D6304 >0.05	▲ 0.060	0.006	0.003
ppm Water	ppm	ASTM D6304 >500	▲ 601.9	68.6	32.3

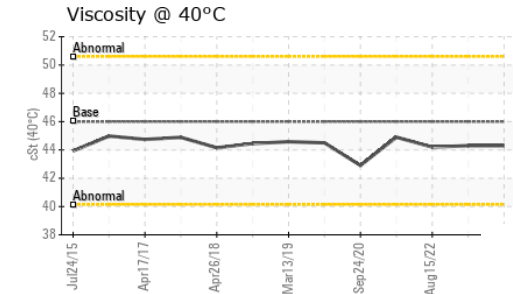
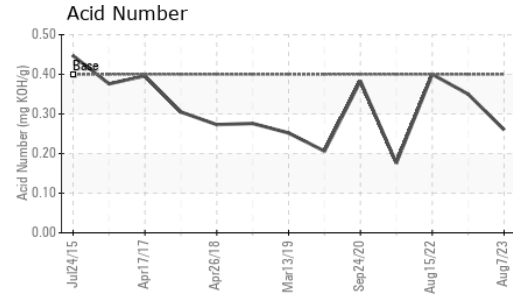
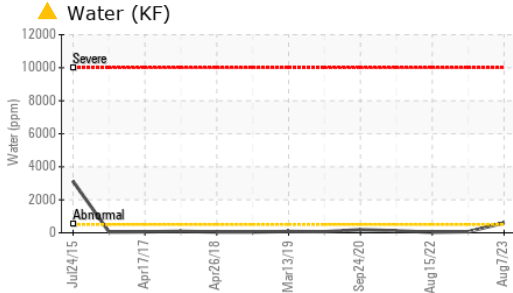
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		---	364	2662
Particles >6µm	ASTM D7647	>1300	---	115	1027
Particles >14µm	ASTM D7647	>80	---	17	▲ 118
Particles >21µm	ASTM D7647	>20	---	4	▲ 34
Particles >38µm	ASTM D7647	>4	---	0	4
Particles >71µm	ASTM D7647	>3	---	0	1
Oil Cleanliness	ISO 4406 (c)	>17/13	---	16/14/11	▲ 19/17/14

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.4	0.26	0.35	0.40

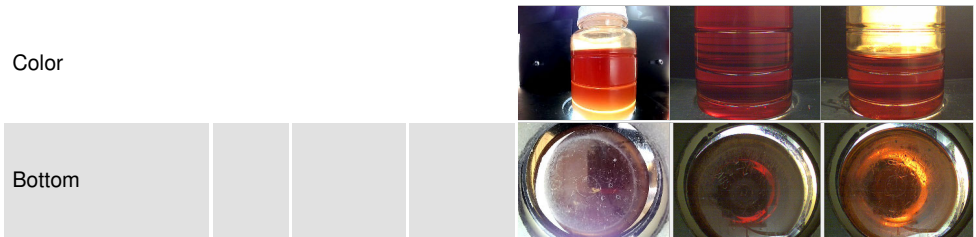
OIL ANALYSIS REPORT



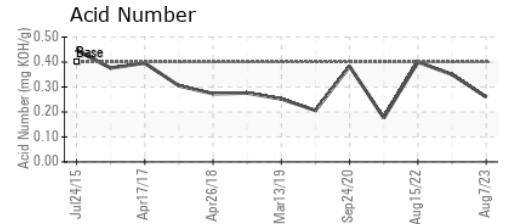
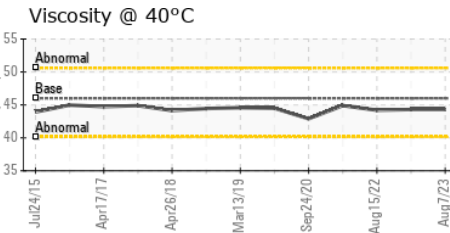
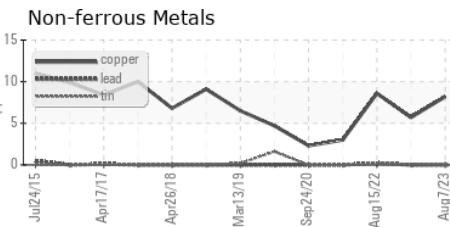
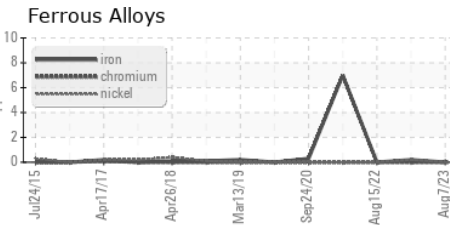
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	MODER	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	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 46	44.3	44.3	44.2

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. : KCPA002691 Received : 27 Sep 2023
 Lab Number : 05962231 Diagnosed : 28 Sep 2023
 Unique Number : 10668782 Diagnostician : Don Baldrige
 Test Package : IND 2 (Additional Tests: KF, PrtCount)

MAHLE ENGINE COMPONENTS
 2301 E 16TH ST
 RUSSELLVILLE, AR
 US 72802
 Contact:

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: