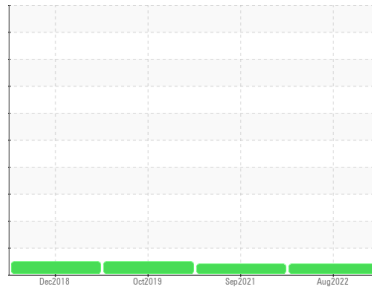


PROBLEM SUMMARY

Sample Rating Trend



VIS DEBRIS



Machine Id
KAESER CSD 100 4891621 - MAHLE (S/N 1155)
Component
Compressor
Fluid
KAESER SIGMA (OEM) S-460 (--- GAL)

COMPONENT CONDITION SUMMARY

No relevant graphs to display

RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status		ABNORMAL	ABNORMAL	NORMAL
Debris	scalar *Visual	NONE	▲ MODER	NONE

Customer Id: KAEFRE
Sample No.: KCP48326
Lab Number: 05638600
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
Alert	---	---	?	We were unable to perform a particle count due to a high concentration of particles present in this sample.

HISTORICAL DIAGNOSIS

29 Sep 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 high 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



14 Oct 2019 Diag: Jonathan Hester

NORMAL



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



04 Dec 2018 Diag: Doug Bogart

NORMAL

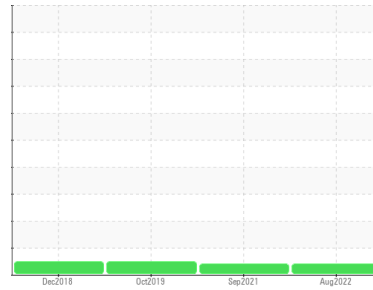


Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



Machine Id
KAESER CSD 100 4891621 - MAHLE (S/N 1155)
Component
Compressor
Fluid
KAESER SIGMA (OEM) S-460 (--- GAL)



DIAGNOSIS

Recommendation

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.

Wear

All component wear rates are normal.

Contamination

Moderate concentration of visible dirt/debris 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			KCP48326	KCP39093	KC70777
Sample Date			15 Aug 2022	29 Sep 2021	14 Oct 2019
Machine Age	hrs		56987	50207	35620
Oil Age	hrs		0	0	4535
Oil Changed			Not Changed	Changed	Not Changed
Sample Status			ABNORMAL	ABNORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm ASTM D5185m	>50	0	1	<1
Chromium	ppm ASTM D5185m	>10	0	0	0
Nickel	ppm ASTM D5185m	>3	0	0	0
Titanium	ppm ASTM D5185m	>3	0	0	0
Silver	ppm ASTM D5185m	>2	0	0	<1
Aluminum	ppm ASTM D5185m	>10	1	<1	<1
Lead	ppm ASTM D5185m	>10	0	0	0
Copper	ppm ASTM D5185m	>50	11	<1	4
Tin	ppm ASTM D5185m	>10	<1	0	0
Antimony	ppm ASTM D5185m		---	0	0
Vanadium	ppm ASTM D5185m		0	0	0
Cadmium	ppm ASTM D5185m		<1	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
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	<1	2	2
Calcium	ppm ASTM D5185m	2	0	0	0
Phosphorus	ppm ASTM D5185m		9	2	2
Zinc	ppm ASTM D5185m		0	0	0
Sulfur	ppm ASTM D5185m		14135	2149	13864

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185m	>25	<1	<1	<1
Sodium	ppm ASTM D5185m		0	1	<1
Potassium	ppm ASTM D5185m	>20	<1	0	<1
Water	% ASTM D6304	>0.05	0.004	0.014	0.006
ppm Water	ppm ASTM D6304	>500	46.3	141.1	68.4

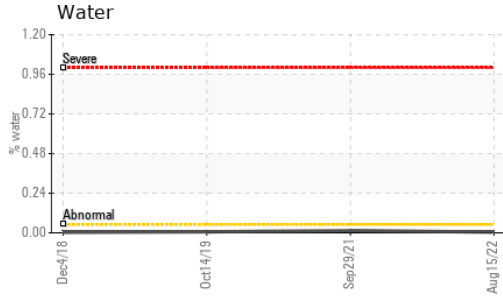
FLUID CLEANLINESS

	method	limit/base	current	history 1	history 2
Particles >4µm	ASTM D7647		---	107278	988
Particles >6µm	ASTM D7647	>1300	---	▲ 21486	308
Particles >14µm	ASTM D7647	>80	---	68	40
Particles >21µm	ASTM D7647	>20	---	4	13
Particles >38µm	ASTM D7647	>4	---	0	0
Particles >71µm	ASTM D7647	>3	---	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/13	---	▲ 22/13	15/12

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Acid Number (AN)	mg KOH/g ASTM D8045	0.4	0.37	0.207	0.195

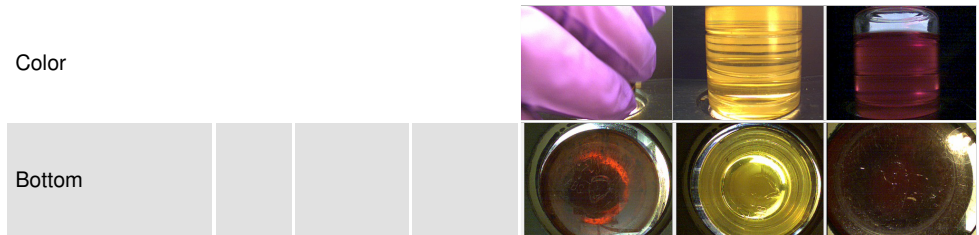
OIL ANALYSIS REPORT



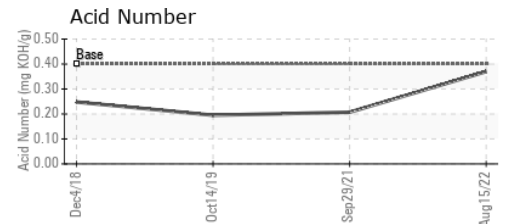
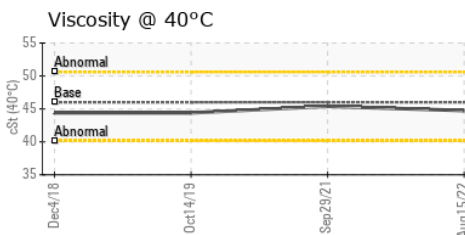
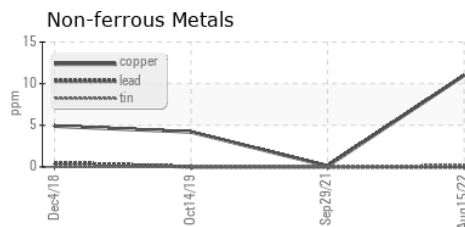
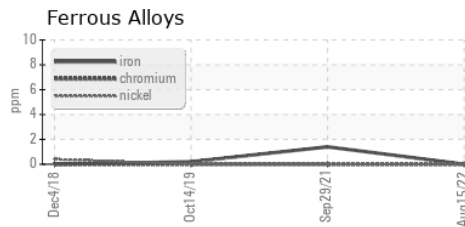
VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	▲ MODER	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	history 1	history 2
Visc @ 40°C	cSt	ASTM D445	46	44.75	45.4

SAMPLE IMAGES	method	limit/base	current	history 1	history 2
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GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCP48326 **Received** : 12 Sep 2022
Lab Number : 05638600 **Diagnosed** : 15 Sep 2022
Unique Number : 10128130 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: KF, PrtCount)

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 511 SIGMA DRIVE
 FREDERICKSBURG, VA
 USA 22408
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 T: (540)898-5500
 F: (540)898-5520

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)