KAESER COMPRESSORS
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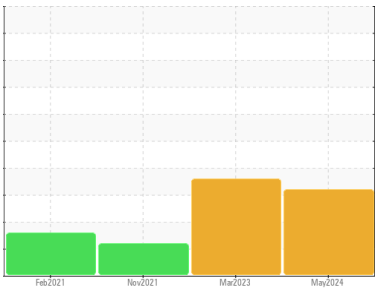
OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
KAESER 6838413 (S/N 1032)
Component
Compressor
Fluid
KAESER SIGMA (OEM) M-460 (--- GAL)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. We were unable to perform a particle count due to a high concentration of particles present in this sample. We recommend an early resample in 500 hours to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of visible silt present in the sample. There is a light concentration of water present in the oil.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KCPA014668**	KCPA001423	KCP39026
Sample Date		Client Info		**16 May 2024**	15 Mar 2023	05 Nov 2021
Machine Age	hrs	Client Info		**15614**	11906	4580
Oil Age	hrs	Client Info		**6000**	0	2300
Oil Changed		Client Info		**Changed**	N/A	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**2**	1	<1
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	**2**	<1	0
Lead	ppm	ASTM D5185m	>10	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>50	**5**	23	2
Tin	ppm	ASTM D5185m	>10	**<1**	0	0
Antimony	ppm	ASTM D5185m		**---**	---	0
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	0
Barium	ppm	ASTM D5185m	90	**2**	0	0
Molybdenum	ppm	ASTM D5185m	0	**0**	0	0
Manganese	ppm	ASTM D5185m		**0**	0	<1
Magnesium	ppm	ASTM D5185m	100	**3**	<1	61
Calcium	ppm	ASTM D5185m	0	**0**	<1	0
Phosphorus	ppm	ASTM D5185m	0	**332**	2	3
Zinc	ppm	ASTM D5185m	0	**85**	0	15
Sulfur	ppm	ASTM D5185m	23500	**6403**	15626	17327

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**<1**	2	0
Sodium	ppm	ASTM D5185m		**2**	0	11
Potassium	ppm	ASTM D5185m	>20	**1**	0	7
Water	%	ASTM D6304	>0.05	▲ **0.114**	▲ 0.127	0.017
ppm Water	ppm	ASTM D6304	>500	▲ **1140**	▲ 1270	173.3

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**---**	258076	21983
Particles >6µm		ASTM D7647	>1300	**---**	▲ 154980	▲ 8128
Particles >14µm		ASTM D7647	>80	**---**	▲ 15651	▲ 255
Particles >21µm		ASTM D7647	>20	**---**	▲ 2067	▲ 34
Particles >38µm		ASTM D7647	>4	**---**	▲ 51	2
Particles >71µm		ASTM D7647	>3	**---**	1	0
Oil Cleanliness		ISO 4406 (c)	>--/17/13	**---**	▲ 25/24/21	▲ 20/15

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	**0.20**	0.30	0.311

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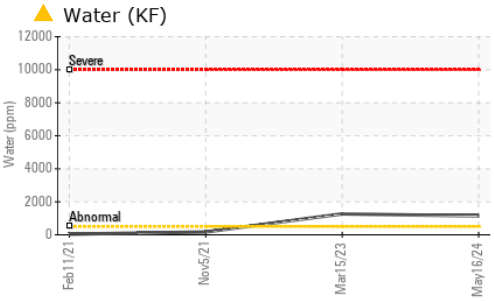
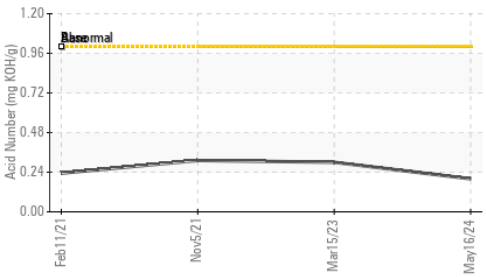
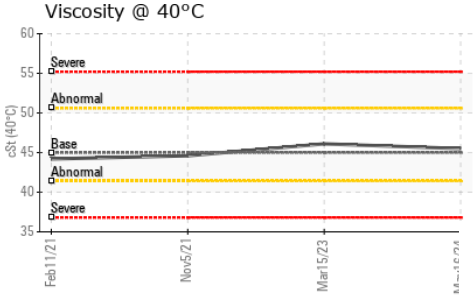
Water (KF)



Acid Number

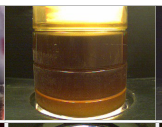
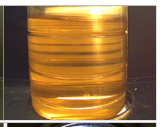
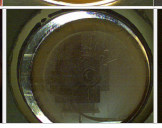
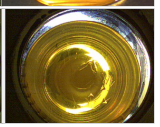


Viscosity @ 40°C



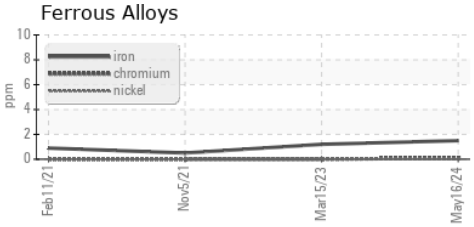
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	● **HAZY**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	▲ **0.2%**	0.2%	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	**45.5**	46.1	44.6

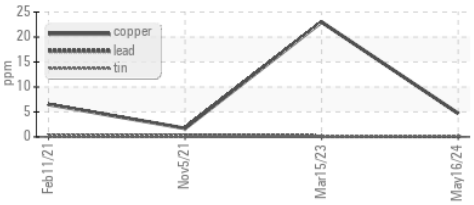
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

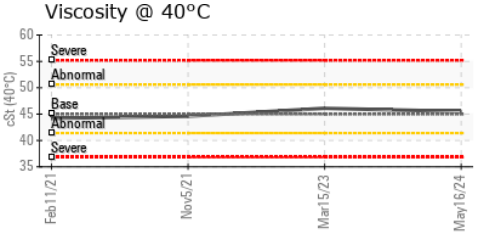
Ferrous Alloys



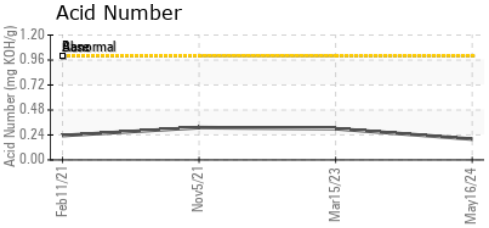
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA014668 **Received** : 06 Jun 2024
Lab Number : 06201526 **Tested** : 10 Jun 2024
Unique Number : 11063649 **Diagnosed** : 10 Jun 2024 - Don Baldridge
Test Package : IND 2 (Additional Tests: KF, PrtCount)

BELLE TIRE
2450 MERCHANTS MILE
COLUMBUS, IN
US 47201
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: