KAESER COMPRESSORS
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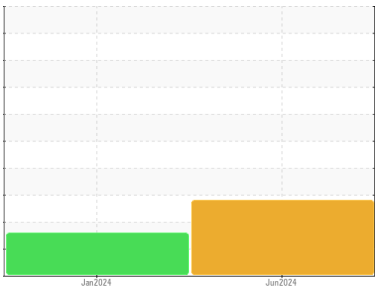
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
KAESER ESD 300 8860174 (S/N 1769)
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
The aluminum level is abnormal. All other 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 acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KC130931**	KC127690	---
Sample Date		Client Info		**05 Jun 2024**	11 Jan 2024	---
Machine Age	hrs	Client Info		**3628**	2026	---
Oil Age	hrs	Client Info		**3628**	0	---
Oil Changed		Client Info		**Not Changd**	N/A	---
Sample Status				**ABNORMAL**	ABNORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**5**	3	---
Chromium	ppm	ASTM D5185m	>10	**0**	0	---
Nickel	ppm	ASTM D5185m	>3	**0**	0	---
Titanium	ppm	ASTM D5185m	>3	**<1**	<1	---
Silver	ppm	ASTM D5185m	>2	**0**	0	---
Aluminum	ppm	ASTM D5185m	>10	▲ **21**	13	---
Lead	ppm	ASTM D5185m	>10	**<1**	0	---
Copper	ppm	ASTM D5185m	>50	**2**	<1	---
Tin	ppm	ASTM D5185m	>10	**0**	0	---
Vanadium	ppm	ASTM D5185m		**<1**	0	---
Cadmium	ppm	ASTM D5185m		**0**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	---
Barium	ppm	ASTM D5185m	90	**0**	0	---
Molybdenum	ppm	ASTM D5185m		**0**	0	---
Manganese	ppm	ASTM D5185m		**<1**	0	---
Magnesium	ppm	ASTM D5185m	90	**0**	0	---
Calcium	ppm	ASTM D5185m	2	**0**	0	---
Phosphorus	ppm	ASTM D5185m		**52**	38	---
Zinc	ppm	ASTM D5185m		**28**	0	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**2**	0	---
Sodium	ppm	ASTM D5185m		**8**	2	---
Potassium	ppm	ASTM D5185m	>20	**6**	2	---
Water	%	ASTM D6304	>0.05	**0.004**	0.004	---
ppm Water	ppm	ASTM D6304	>500	**43**	46	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**15357**	67860	---
Particles >6µm		ASTM D7647	>1300	▲ **6880**	▲ 16370	---
Particles >14µm		ASTM D7647	>80	▲ **1415**	▲ 427	---
Particles >21µm		ASTM D7647	>20	▲ **457**	▲ 80	---
Particles >38µm		ASTM D7647	>4	▲ **4**	3	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>--/17/13	▲ **21/20/18**	▲ 23/21/16	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	**0.18**	0.07	---

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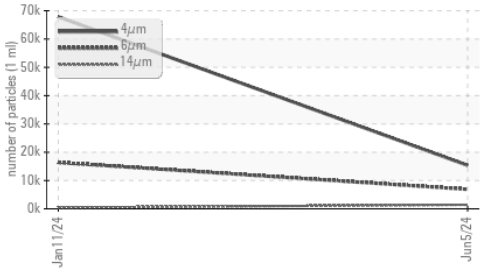
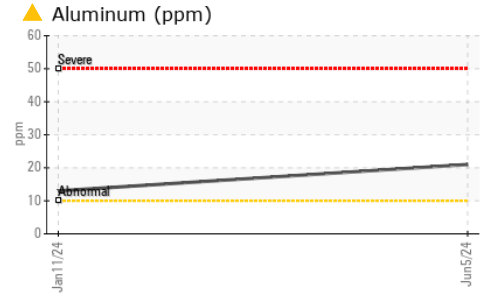
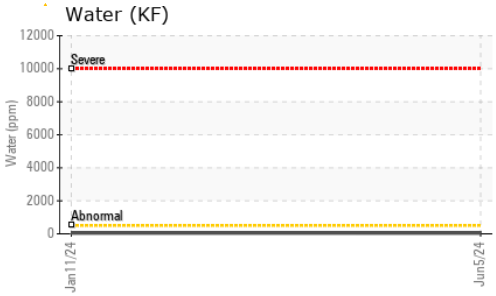
Particle Trend



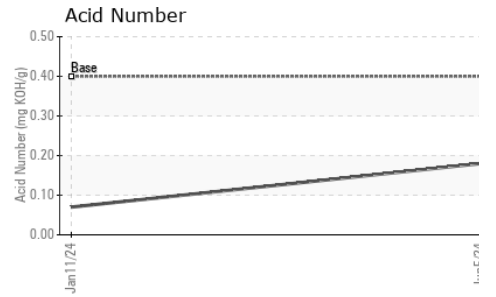
Aluminum (ppm)



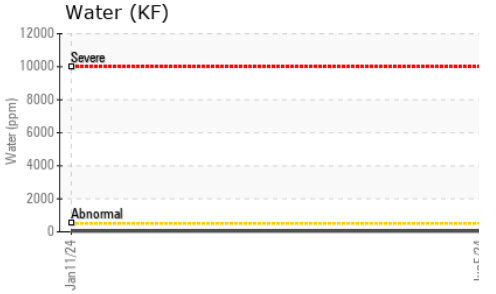
Water (KF)



Acid Number



Water (KF)



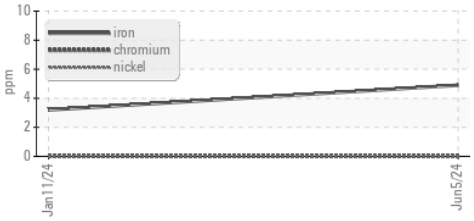
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	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	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	**46.6**	46.7	---

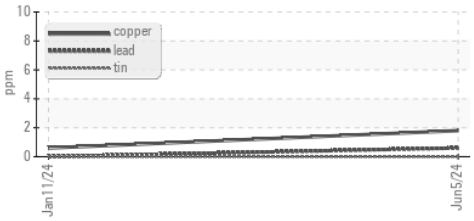
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

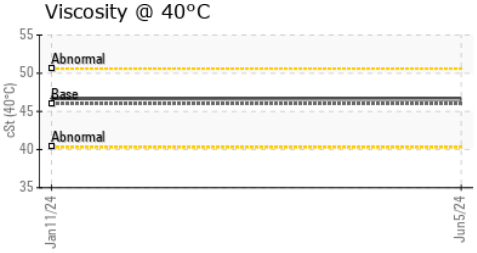
Ferrous Alloys



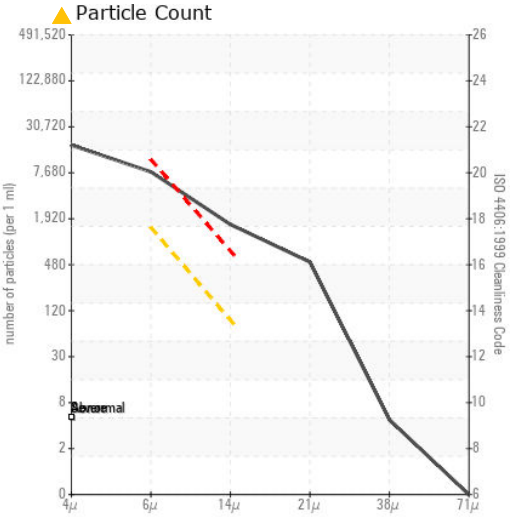
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Acid Number

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KC130931
Lab Number : 06212375
Unique Number : 11085239
Test Package : IND 2

Received : 17 Jun 2024
Tested : 19 Jun 2024
Diagnosed : 19 Jun 2024 - Don Baldridge

Certificate L2367

ARCH RESOURCES
1200 TYGART DR
GRAFTON, WV
US 26354
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: