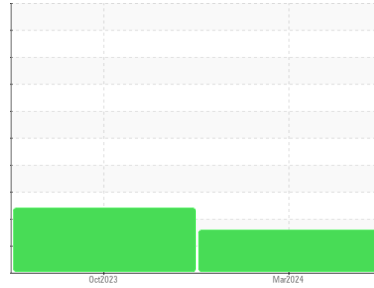




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
KAESER 4356721 - 1189
 Component
Compressor
 Fluid
KAESER SIGMA (OEM) S-460 (--- GAL)

DIAGNOSIS

▲ Recommendation

The filter change at the time of sampling has been noted. 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. The amount and size of particulates present in the system are acceptable.

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		KCPA013689	KCPA000755	---
Sample Date	Client Info		14 Mar 2024	20 Oct 2023	---
Machine Age	hrs	Client Info	48423	48385	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		Not Chngd	N/A	---
Sample Status			ABNORMAL	ABNORMAL	---

WEAR METALS

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

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	---
Barium	ppm	ASTM D5185m 90	48	0	---
Molybdenum	ppm	ASTM D5185m	1	0	---
Manganese	ppm	ASTM D5185m	0	0	---
Magnesium	ppm	ASTM D5185m 90	13	<1	---
Calcium	ppm	ASTM D5185m 2	87	0	---
Phosphorus	ppm	ASTM D5185m	66	26	---
Zinc	ppm	ASTM D5185m	115	51	---
Sulfur	ppm	ASTM D5185m	19638	20194	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	0	0	---
Sodium	ppm	ASTM D5185m	1	0	---
Potassium	ppm	ASTM D5185m >20	0	1	---
Water	%	ASTM D6304 >0.05	▲ 0.276	▲ 0.663	---
ppm Water	ppm	ASTM D6304 >500	▲ 2760	▲ 6630	---

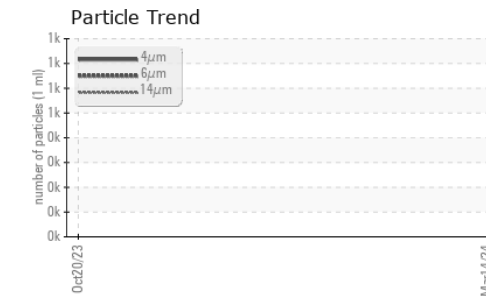
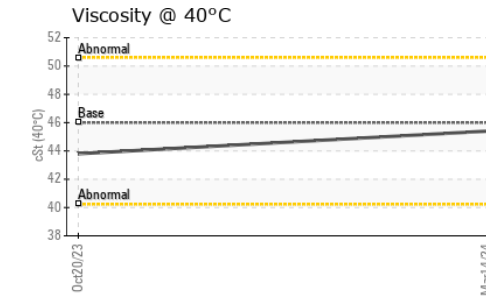
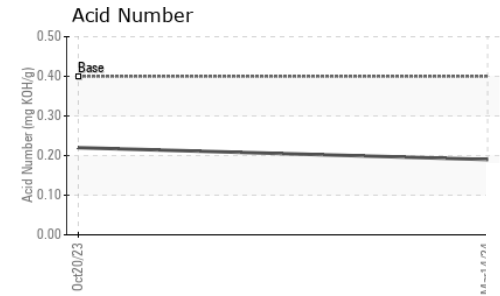
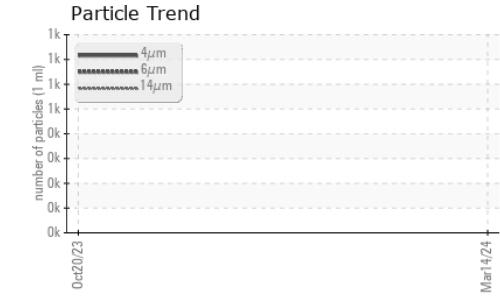
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		792	---	---
Particles >6µm	ASTM D7647	>1300	431	---	---
Particles >14µm	ASTM D7647	>80	73	---	---
Particles >21µm	ASTM D7647	>20	25	---	---
Particles >38µm	ASTM D7647	>4	4	---	---
Particles >71µm	ASTM D7647	>3	0	---	---
Oil Cleanliness	ISO 4406 (c)	>--/17/13	17/16/13	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.4	0.19	0.22	---

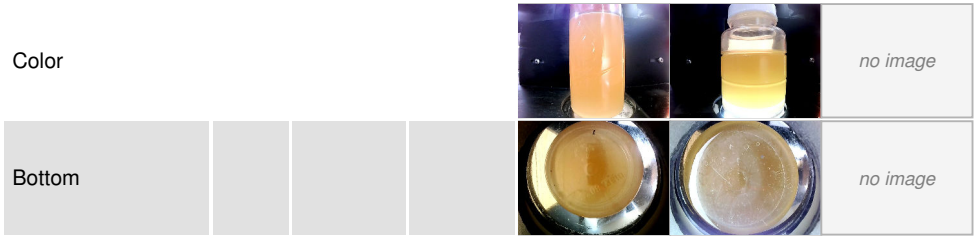
OIL ANALYSIS REPORT



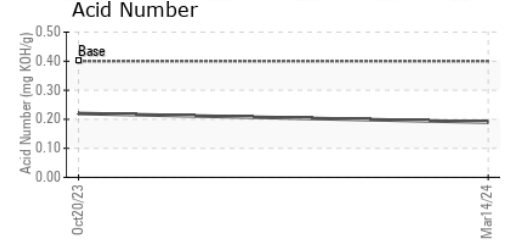
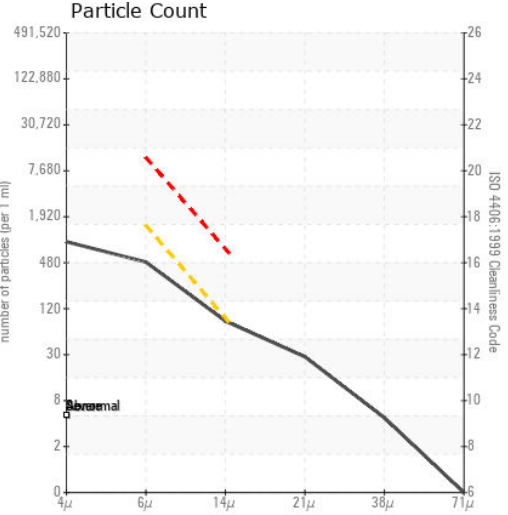
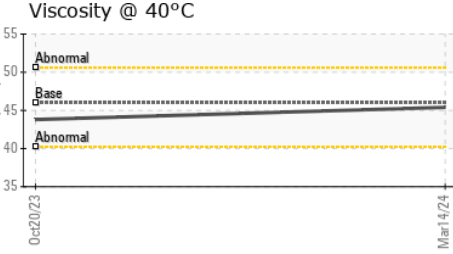
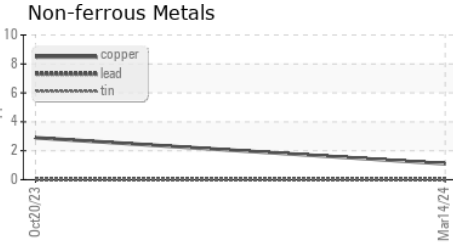
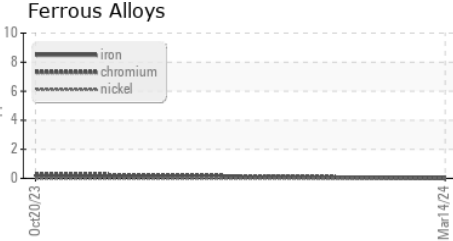
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 46	45.4	43.8	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA013689 **Received** : 20 Mar 2024
Lab Number : 06124319 **Tested** : 27 Mar 2024
Unique Number : 10938470 **Diagnosed** : 27 Mar 2024 - Jonathan Hester
Test Package : IND 2 (Additional Tests: KF, PrtCount)

SEAWORLD SAN ANTONIO
 10500 SEA WORLD DR
 SAN ANTONIO, TX
 US 78251
 Contact: ARTHUR HART
 arthur.hart@seaworld.com

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)

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F: