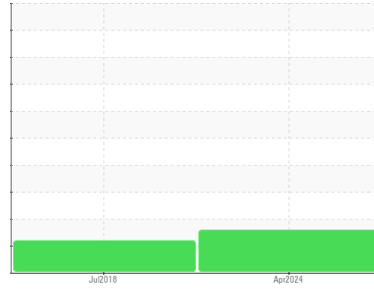




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
KAESER SM 11 1825751 (S/N 1103)
 Component
Compressor
 Fluid
KAESER SIGMA (OEM) M-460 (--- GAL)

DIAGNOSIS

▲ Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

▲ Wear

The copper level is abnormal. All other component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable.

● Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			KCPA017108	KCP14699	---
Sample Date	Client Info			16 Apr 2024	30 Jul 2018	---
Machine Age	hrs	Client Info		36674	24355	---
Oil Age	hrs	Client Info		6801	3191	---
Oil Changed	Client Info			Changed	Changed	---
Sample Status				ABNORMAL	ATTENTION	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	<1	<1	---
Chromium	ppm	ASTM D5185m	>10	<1	0	---
Nickel	ppm	ASTM D5185m	>3	<1	0	---
Titanium	ppm	ASTM D5185m	>3	<1	0	---
Silver	ppm	ASTM D5185m	>2	<1	0	---
Aluminum	ppm	ASTM D5185m	>10	3	<1	---
Lead	ppm	ASTM D5185m	>10	<1	0	---
Copper	ppm	ASTM D5185m	>50	▲ 105	18	---
Tin	ppm	ASTM D5185m	>10	<1	0	---
Antimony	ppm	ASTM D5185m		---	0	---
Vanadium	ppm	ASTM D5185m		<1	0	---
Cadmium	ppm	ASTM D5185m		<1	0	---

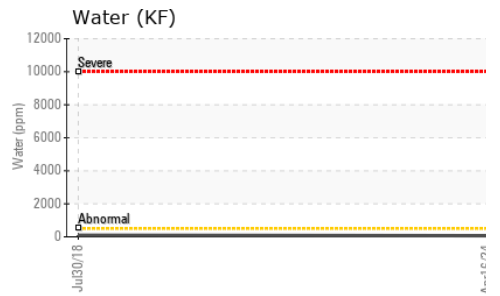
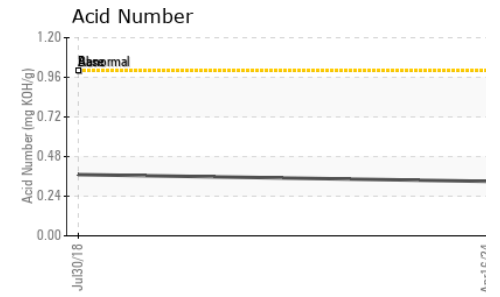
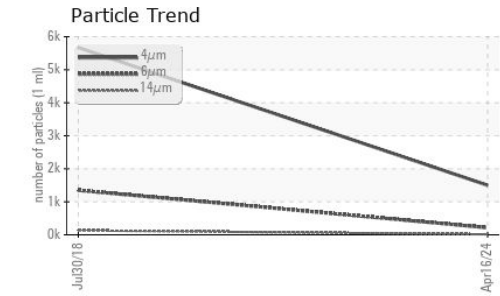
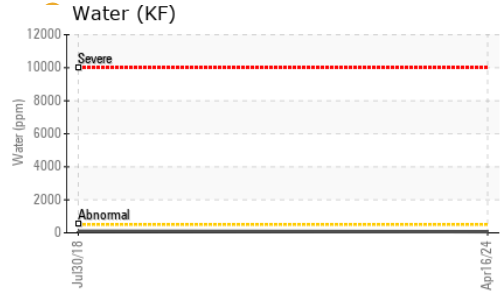
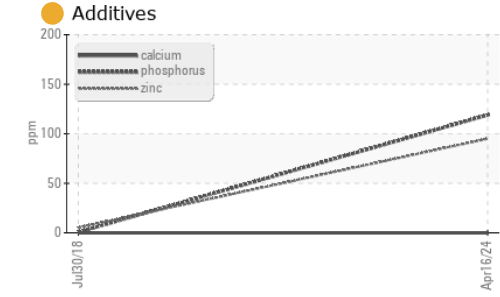
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	0	---
Barium	ppm	ASTM D5185m	90	2	0	---
Molybdenum	ppm	ASTM D5185m	0	<1	0	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m	100	8	9	---
Calcium	ppm	ASTM D5185m	0	0	0	---
Phosphorus	ppm	ASTM D5185m	0	● 119	<1	---
Zinc	ppm	ASTM D5185m	0	● 95	5	---
Sulfur	ppm	ASTM D5185m	23500	8273	25389	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	8	1	---
Sodium	ppm	ASTM D5185m		0	2	---
Potassium	ppm	ASTM D5185m	>20	2	<1	---
Water	%	ASTM D6304	>0.05	0.006	0.010	---
ppm Water	ppm	ASTM D6304	>500	68	100	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		1500	5670	---
Particles >6µm		ASTM D7647	>1300	217	● 1349	---
Particles >14µm		ASTM D7647	>80	13	● 133	---
Particles >21µm		ASTM D7647	>20	5	● 32	---
Particles >38µm		ASTM D7647	>4	0	0	---
Particles >71µm		ASTM D7647	>3	0	0	---
Oil Cleanliness		ISO 4406 (c)	>--/17/13	18/15/11	● 18/14	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.0	0.33	0.371	---

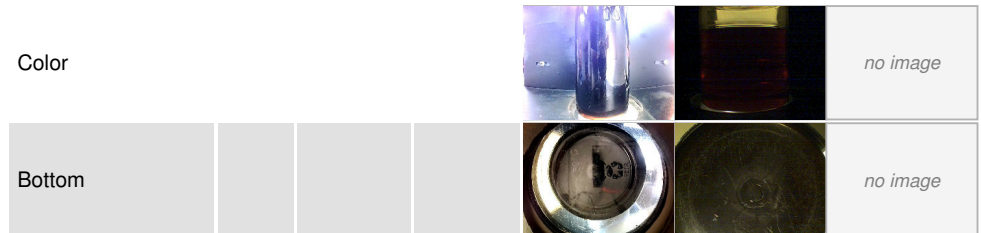
OIL ANALYSIS REPORT



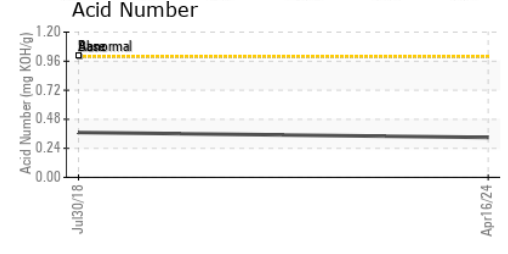
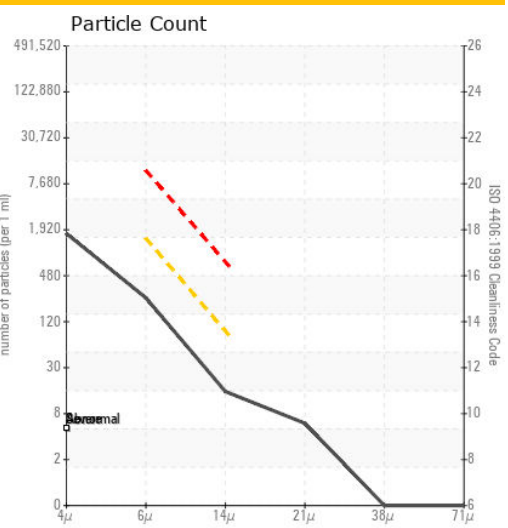
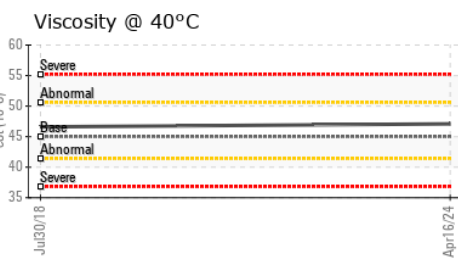
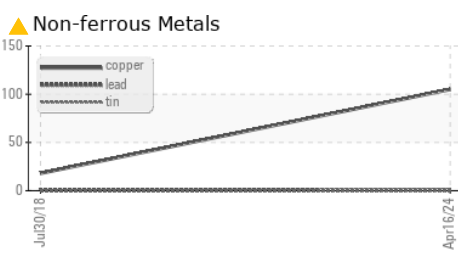
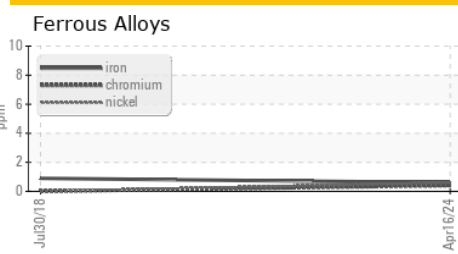
PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	45	47.1	46.6

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA017108 **Received** : 22 Apr 2024
Lab Number : 06156919 **Tested** : 23 Apr 2024
Unique Number : 10992342 **Diagnosed** : 24 Apr 2024 - Angela Borella
Test Package : IND 2 (Additional Tests: KF, PrtCount)

TOYOTA OF GLEN BURNIE
 7167 RITCHIE HWY
 GLEN BURNIE, MD
 US 21061
 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)