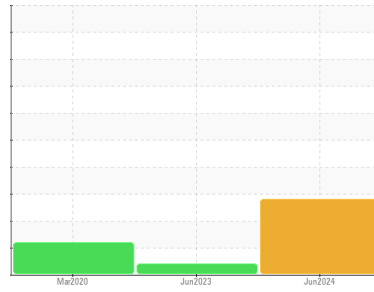




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id
1945064 (S/N 1147)
 Component
Compressor
 Fluid
KAESER SIGMA (OEM) M-460 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

The oil viscosity is higher than normal. The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		KCPA017581	KCPA003013	KCP14904
Sample Date	Client Info		28 Jun 2024	01 Jun 2023	16 Mar 2020
Machine Age	hrs	Client Info	26971	25904	21472
Oil Age	hrs	Client Info	1067	0	2014
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	2	<1	2
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	0
Aluminum	ppm	ASTM D5185m >10	<1	<1	<1
Lead	ppm	ASTM D5185m >10	0	0	<1
Copper	ppm	ASTM D5185m >50	5	3	5
Tin	ppm	ASTM D5185m >10	0	0	<1
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	<1
Barium	ppm	ASTM D5185m 90	0	8	28
Molybdenum	ppm	ASTM D5185m 0	0	0	0
Manganese	ppm	ASTM D5185m	0	0	<1
Magnesium	ppm	ASTM D5185m 100	18	47	61
Calcium	ppm	ASTM D5185m 0	0	0	0
Phosphorus	ppm	ASTM D5185m 0	2	1	0
Zinc	ppm	ASTM D5185m 0	6	2	6
Sulfur	ppm	ASTM D5185m 23500	20252	21337	15437

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<1	<1	2
Sodium	ppm	ASTM D5185m	4	15	10
Potassium	ppm	ASTM D5185m >20	<1	2	<1
Water	%	ASTM D6304 >0.05	0.012	0.018	0.017
ppm Water	ppm	ASTM D6304 >500	127	186.6	177.7

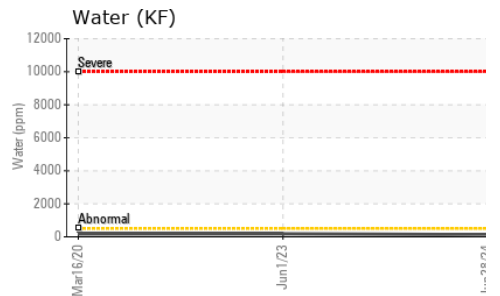
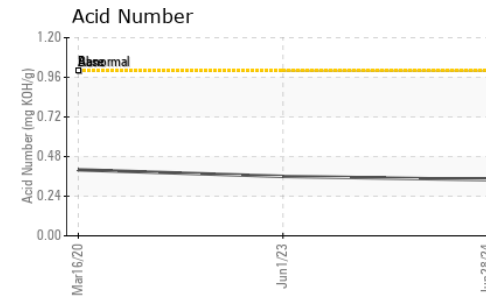
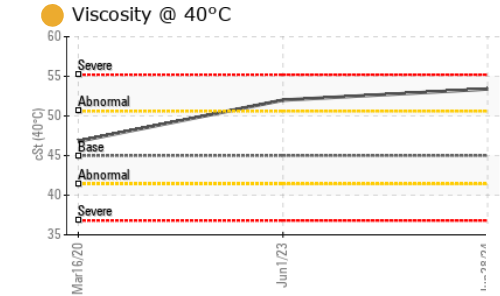
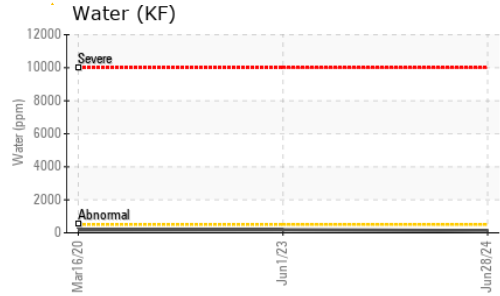
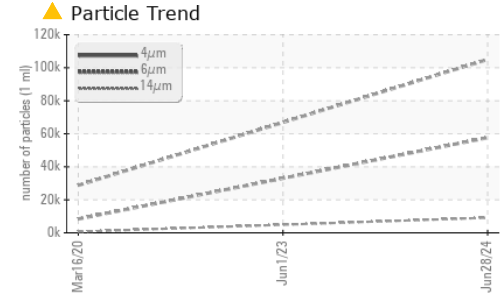
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		105030	---	28776
Particles >6µm	ASTM D7647	>1300	▲ 57645	---	▲ 8402
Particles >14µm	ASTM D7647	>80	▲ 9116	---	▲ 647
Particles >21µm	ASTM D7647	>20	▲ 2450	---	▲ 127
Particles >38µm	ASTM D7647	>4	▲ 67	---	5
Particles >71µm	ASTM D7647	>3	▲ 4	---	0
Oil Cleanliness	ISO 4406 (c)	>--/17/13	▲ 24/23/20	---	▲ 20/17

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 1.0	0.34	0.36	0.400

OIL ANALYSIS REPORT

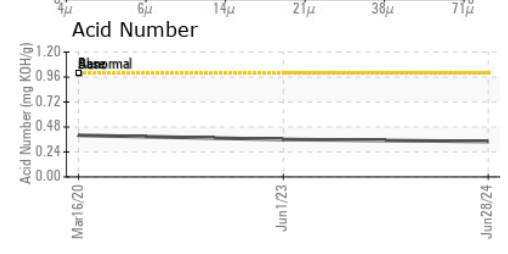
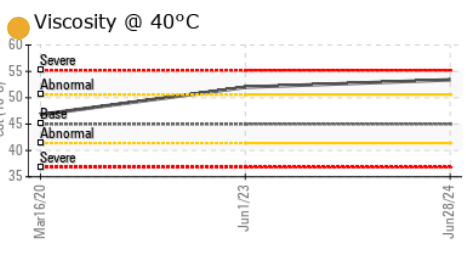
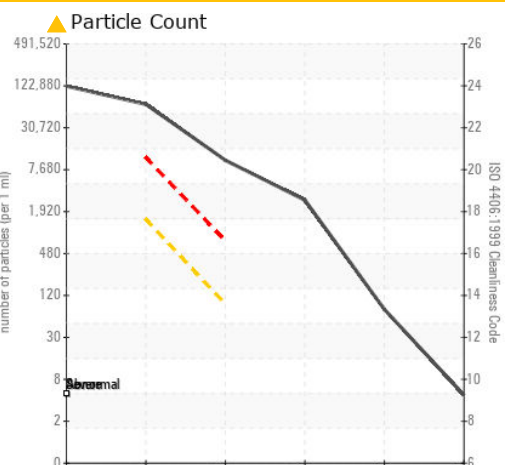
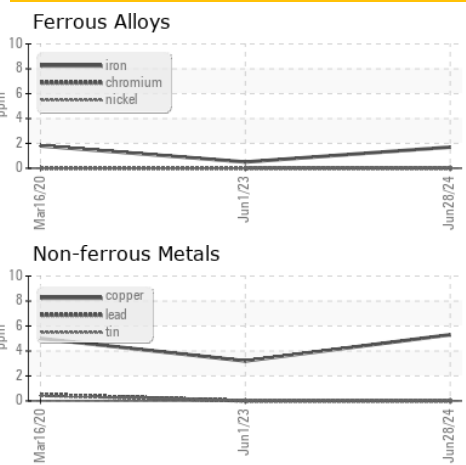


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	45	● 53.4	52.0

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KCPA017581 **Received** : 16 Jul 2024
Lab Number : 06238394 **Tested** : 17 Jul 2024
Unique Number : 11127228 **Diagnosed** : 18 Jul 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PrtCount)

HALLMARK MANUFACTURING
 12524 WELD CO RD 25.5
 FORT LUPTON, CO
 US 80621
 Contact: SERVICE MANAGER
 info@hallmarkrv.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)