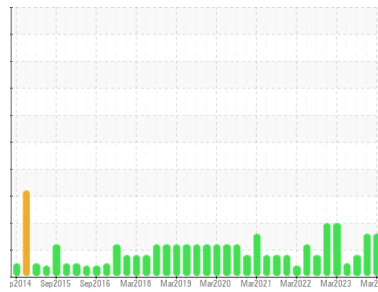


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
64
 Component
Lube System
 Fluid
SHELL TONNA S3 M 220 (--- GAL)

DIAGNOSIS

Recommendation
 Resample at the next service interval to monitor. Due to an abnormal test result it is recommended to contact Stauff Corp at (201)-444-7800 for help resolving the issue.

Wear
 The iron level is abnormal.

Contamination
 There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

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			ST43254	ST43720	ST43867
Sample Date	Client Info			26 Mar 2024	21 Dec 2023	27 Sep 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	▲ 63	▲ 60	▲ 60
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>20	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	<1	0
Lead	ppm	ASTM D5185m	>20	0	0	0
Copper	ppm	ASTM D5185m	>20	0	0	0
Tin	ppm	ASTM D5185m	>20	0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0

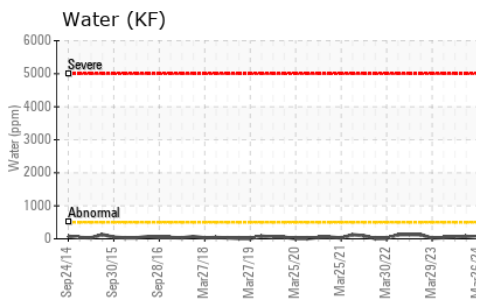
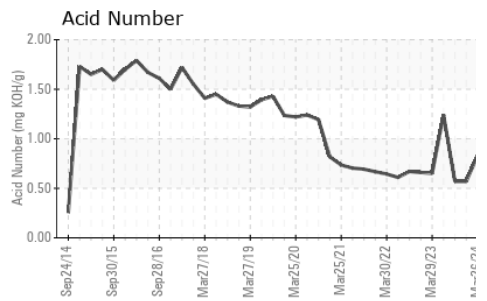
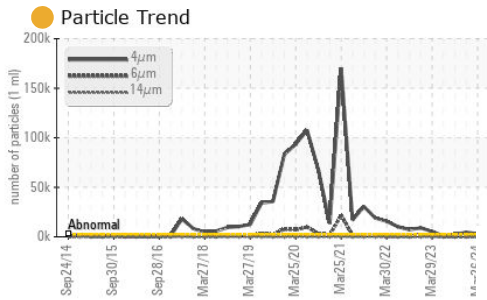
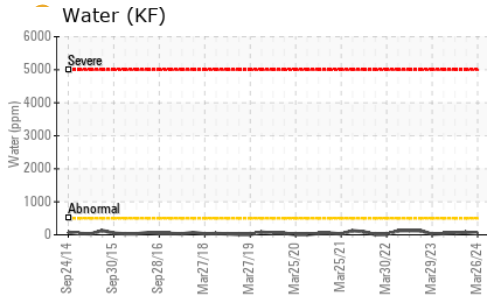
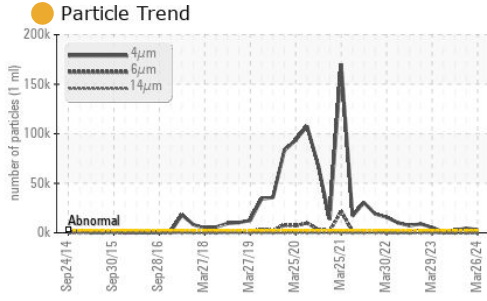
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		<1	<1	1
Magnesium	ppm	ASTM D5185m		<1	0	<1
Calcium	ppm	ASTM D5185m		5	<1	2
Phosphorus	ppm	ASTM D5185m		224	213	184
Zinc	ppm	ASTM D5185m		3	0	1
Sulfur	ppm	ASTM D5185m		12193	11154	10310

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	2	2	3
Sodium	ppm	ASTM D5185m		8	4	8
Potassium	ppm	ASTM D5185m	>20	1	2	1
Water	%	ASTM D6304	>0.05	0.004	0.007	0.006
ppm Water	ppm	ASTM D6304	>500	44	75	61.2

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	● 2997	● 4649	2377
Particles >6µm		ASTM D7647	>640	310	373	142
Particles >14µm		ASTM D7647	>160	14	7	9
Particles >21µm		ASTM D7647	>40	5	2	3
Particles >38µm		ASTM D7647	>10	1	0	0
Particles >71µm		ASTM D7647	>3	1	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/14	● 19/15/11	● 19/16/10	18/14/10

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.83	0.57	0.57

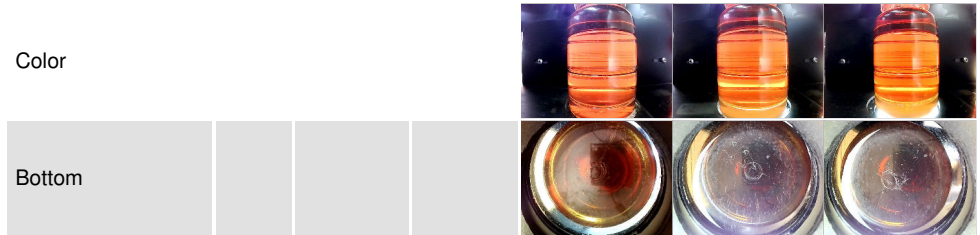
OIL ANALYSIS REPORT



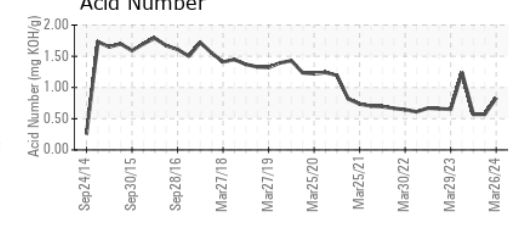
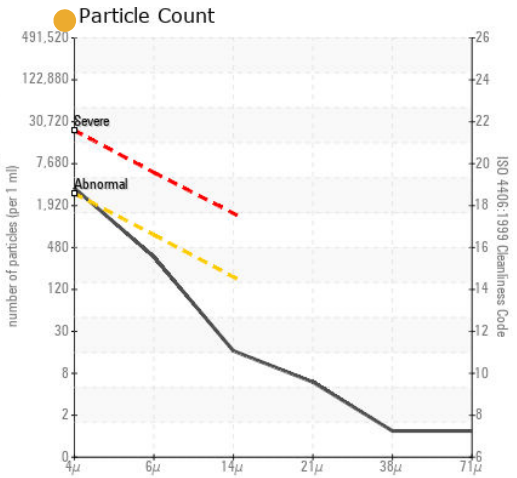
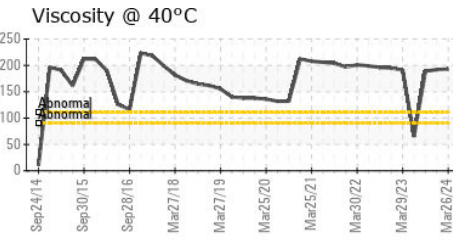
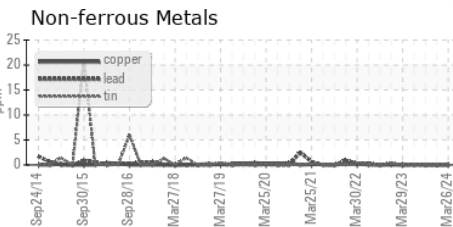
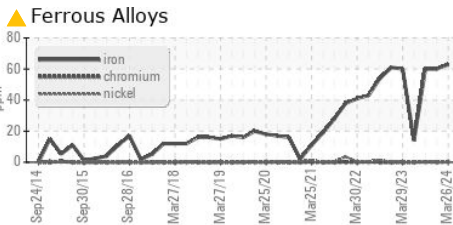
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	193	192	189

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ST43254
Lab Number : 06137440
Unique Number : 10956905
Test Package : IND 2 (Additional Tests: KF)

Received : 03 Apr 2024
Tested : 04 Apr 2024
Diagnosed : 05 Apr 2024 - Don Baldrige

ZAPP PRECISION STRIP INC.
 266 SAMUEL BARNET BLVD.
 DARTMOUTH, MA
 US 02745
 Contact: MARK MEDEIROS
 mark.medeiros@zapp.com
 T: (888)647-3700
 F: (508)998-6310

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)