

Machine Id  
**42 IN MILL 51**  
 Component  
**Gearbox**  
 Fluid  
**GEAR OIL ISO 220 (--- GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component if applicable. 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

All component wear rates are normal.

### Contamination

There is a high 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	<b>ST43908</b>	ST46193	ST43889
Sample Date	Client Info	<b>26 Mar 2024</b>	19 Dec 2023	28 Sep 2023
Machine Age	hrs	<b>0</b>	0	0
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ABNORMAL</b>	ABNORMAL	NORMAL

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >200	<b>27</b>	22	26
Chromium	ppm	ASTM D5185m >15	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m >15	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >25	<b>2</b>	0	0
Lead	ppm	ASTM D5185m >100	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >200	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m >25	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 50	<b>12</b>	10	11
Barium	ppm	ASTM D5185m 15	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 15	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m 50	<b>&lt;1</b>	0	<1
Calcium	ppm	ASTM D5185m 50	<b>9</b>	4	6
Phosphorus	ppm	ASTM D5185m 350	<b>415</b>	375	370
Zinc	ppm	ASTM D5185m 100	<b>6</b>	0	5
Sulfur	ppm	ASTM D5185m 12500	<b>11080</b>	9207	8369

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >50	<b>3</b>	2	4
Sodium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	<1
Water	%	ASTM D6304 >0.2	<b>0.005</b>	0.009	0.011
ppm Water	ppm	ASTM D6304 >2000	<b>52</b>	99	119.9

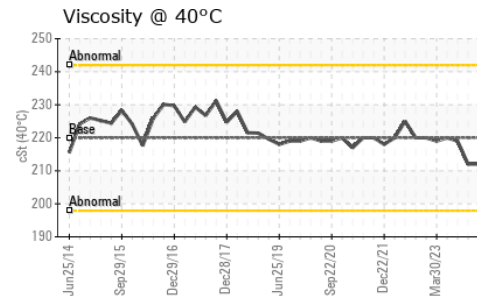
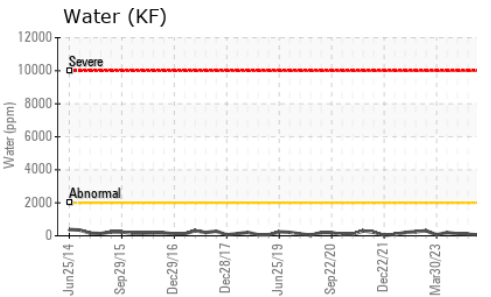
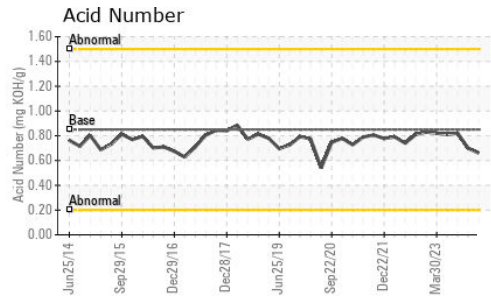
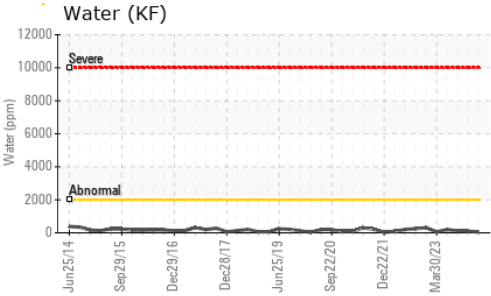
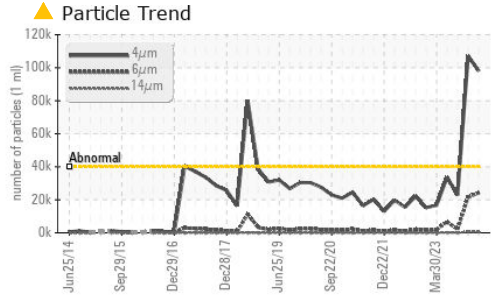
## FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >40000	<b>▲ 98001</b>	▲ 107255	22848
Particles >6µm	ASTM D7647 >5000	<b>▲ 24238</b>	▲ 21730	2089
Particles >14µm	ASTM D7647 >640	<b>381</b>	520	33
Particles >21µm	ASTM D7647 >160	<b>59</b>	120	8
Particles >38µm	ASTM D7647 >40	<b>1</b>	4	1
Particles >71µm	ASTM D7647 >10	<b>0</b>	0	1
Oil Cleanliness	ISO 4406 (c) >22/19/16	<b>▲ 24/22/16</b>	▲ 24/22/16	22/18/12

## FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.85	<b>0.66</b>	0.70	0.82

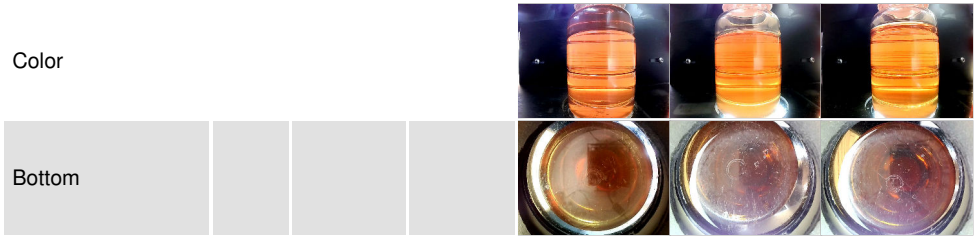
# OIL ANALYSIS REPORT



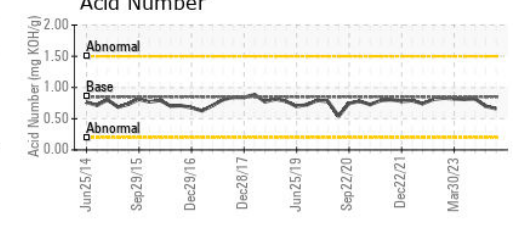
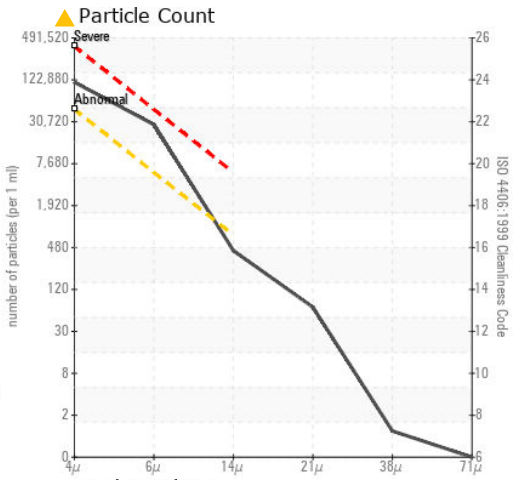
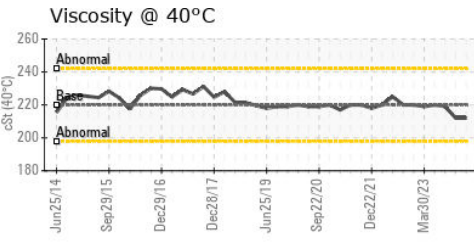
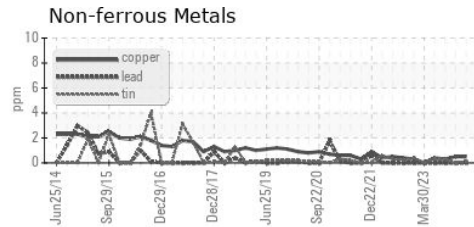
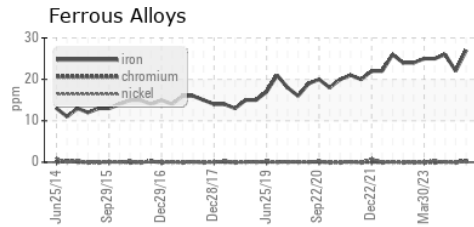
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	220	212	219

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ST43908  
**Lab Number** : 06137437  
**Unique Number** : 10956902  
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )  
**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: Greg Walton  
 greg.walton@zapp.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)