

Machine Id
42 IN MILL 48
 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 | ST46520 | ST44417 | ST43727 |
| Sample Date | Client Info | 26 Mar 2024 | 21 Dec 2023 | 28 Sep 2023 |
| Machine Age | hrs | 0 | 0 | 0 |
| Oil Age | hrs | 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 >200 | 13 | 8 | 11 |
| Chromium | ppm | ASTM D5185m >15 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m >15 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >25 | 2 | 0 | 0 |
| Lead | ppm | ASTM D5185m >100 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m >200 | 0 | 0 | <1 |
| Tin | ppm | ASTM D5185m >25 | 0 | 0 | 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 50 | 27 | 16 | 17 |
| Barium | ppm | ASTM D5185m 15 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 15 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m 50 | <1 | 0 | 0 |
| Calcium | ppm | ASTM D5185m 50 | 5 | 0 | 1 |
| Phosphorus | ppm | ASTM D5185m 350 | 683 | 459 | 517 |
| Zinc | ppm | ASTM D5185m 100 | 2 | 0 | <1 |
| Sulfur | ppm | ASTM D5185m 12500 | 9025 | 5618 | 7122 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | |
|-----------|------------|------------------|--------------|----------|-------|
| Silicon | ppm | ASTM D5185m >50 | 4 | 3 | 5 |
| Sodium | ppm | ASTM D5185m | 2 | <1 | 2 |
| Potassium | ppm | ASTM D5185m >20 | <1 | 0 | <1 |
| Water | % | ASTM D6304 >0.2 | 0.007 | 0.010 | 0.013 |
| ppm Water | ppm | ASTM D6304 >2000 | 75 | 106 | 135.7 |

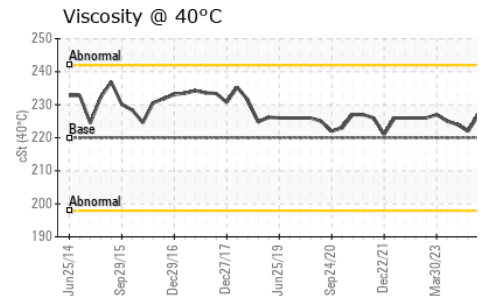
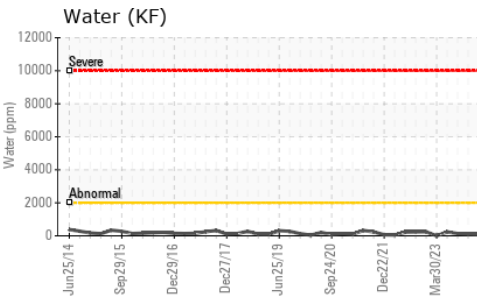
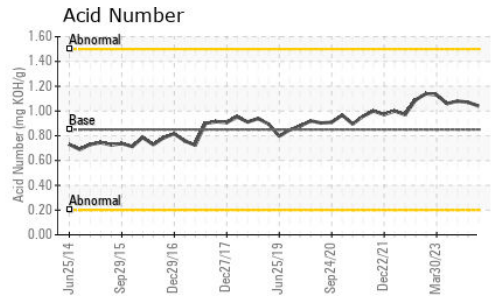
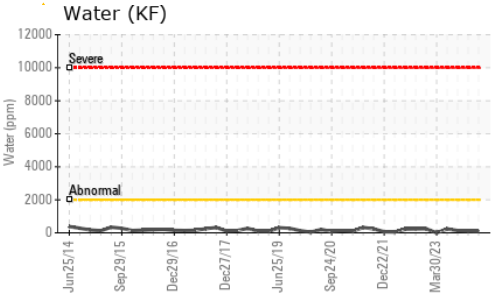
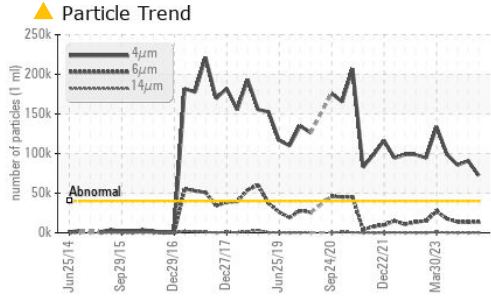
FLUID CLEANLINESS

| method | limit/base | current | history1 | history2 |
|-----------------|------------------------|-------------------|------------|------------|
| Particles >4µm | ASTM D7647 >40000 | ▲ 72494 | ▲ 90886 | ▲ 85481 |
| Particles >6µm | ASTM D7647 >5000 | ▲ 13308 | ▲ 13268 | ▲ 13876 |
| Particles >14µm | ASTM D7647 >640 | 328 | 306 | 142 |
| Particles >21µm | ASTM D7647 >160 | 60 | 54 | 13 |
| Particles >38µm | ASTM D7647 >40 | 2 | 1 | 0 |
| Particles >71µm | ASTM D7647 >10 | 1 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) >22/19/16 | ▲ 23/21/16 | ▲ 24/21/15 | ▲ 24/21/14 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|------------------|------------|-----------------|-------------|----------|------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.85 | 1.04 | 1.07 | 1.08 |

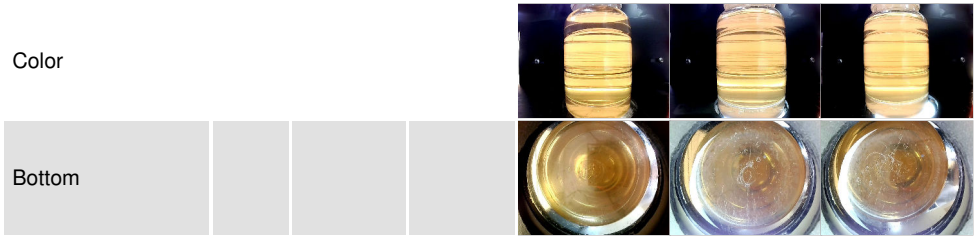
OIL ANALYSIS REPORT



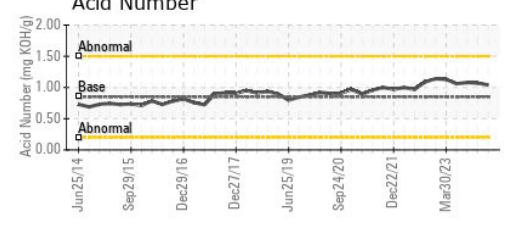
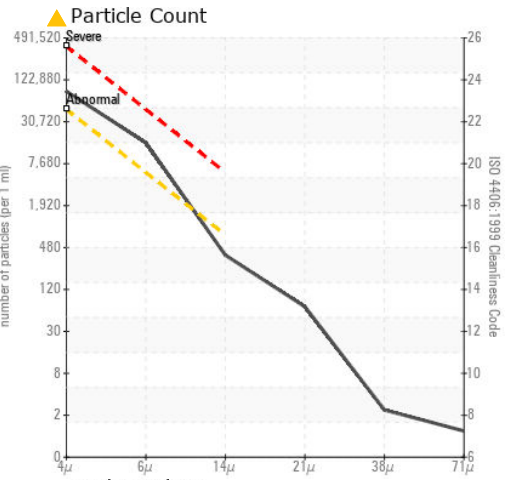
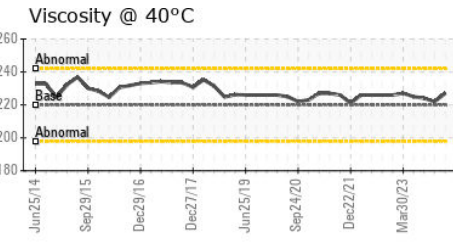
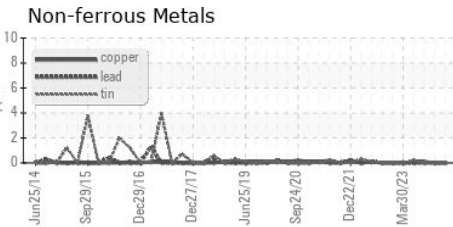
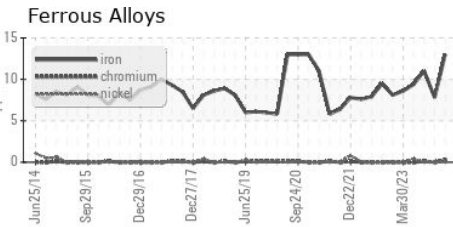
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | 227 | 222 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ST46520 **Received** : 03 Apr 2024
Lab Number : 06137435 **Tested** : 04 Apr 2024
Unique Number : 10956900 **Diagnosed** : 05 Apr 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PrtCount)

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) F: (508)998-6310