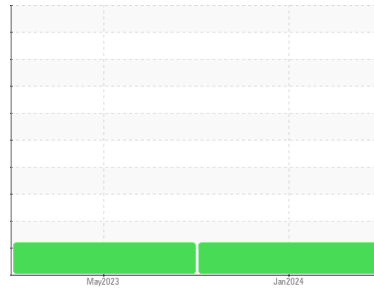




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
COWAN
 Machine Id
COWAN 224539
 Component
Rear Differential
 Fluid
 {not provided} (--- GAL)

DIAGNOSIS

Recommendation
 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 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 | | WC0934464 | WC0828693 | --- |
| Sample Date | Client Info | | 05 Jan 2024 | 23 May 2023 | --- |
| Machine Age | mls | Client Info | 67161 | 2036 | --- |
| Oil Age | mls | Client Info | 0 | 0 | --- |
| Oil Changed | Client Info | | N/A | N/A | --- |
| Sample Status | | | ABNORMAL | ABNORMAL | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >500 | 138 | 18 | --- |
| Chromium | ppm | ASTM D5185m >10 | 1 | <1 | --- |
| Nickel | ppm | ASTM D5185m >10 | 5 | <1 | --- |
| Titanium | ppm | ASTM D5185m | <1 | 0 | --- |
| Silver | ppm | ASTM D5185m | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m >25 | 1 | 0 | --- |
| Lead | ppm | ASTM D5185m >25 | 0 | <1 | --- |
| Copper | ppm | ASTM D5185m >100 | <1 | 0 | --- |
| Tin | ppm | ASTM D5185m >10 | 1 | 0 | --- |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | --- |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | --- |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 122 | 110 | --- |
| Barium | ppm | ASTM D5185m | 2 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | --- |
| Manganese | ppm | ASTM D5185m | 9 | 2 | --- |
| Magnesium | ppm | ASTM D5185m | 161 | 187 | --- |
| Calcium | ppm | ASTM D5185m | 5 | <1 | --- |
| Phosphorus | ppm | ASTM D5185m | 1744 | 1811 | --- |
| Zinc | ppm | ASTM D5185m | 4 | 0 | --- |
| Sulfur | ppm | ASTM D5185m | 29964 | 32553 | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >75 | 18 | 5 | --- |
| Sodium | ppm | ASTM D5185m | 3 | 1 | --- |
| Potassium | ppm | ASTM D5185m >20 | 2 | 3 | --- |
| Water | % | ASTM D6304 >.2 | 0.030 | 0.031 | --- |
| ppm Water | ppm | ASTM D6304 >2000 | 302 | 317.5 | --- |

FLUID CLEANLINESS

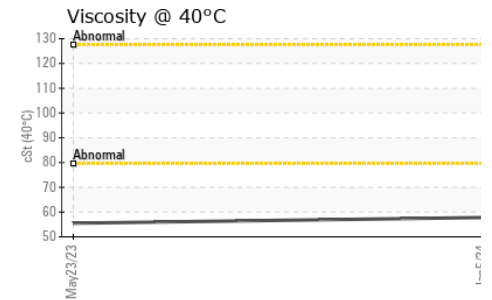
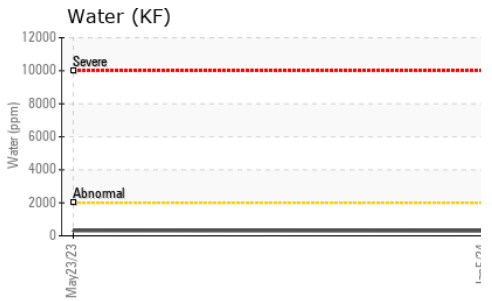
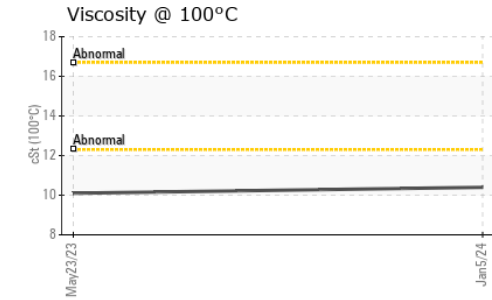
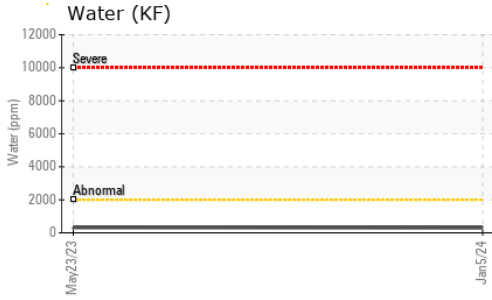
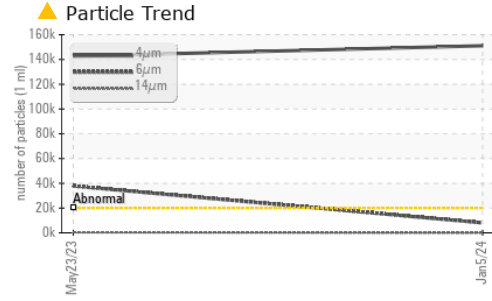
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|------------|----------|
| Particles >4µm | ASTM D7647 | >20000 | ▲ 151090 | ▲ 142626 | --- |
| Particles >6µm | ASTM D7647 | >5000 | ● 8062 | ▲ 37821 | --- |
| Particles >14µm | ASTM D7647 | >640 | 81 | 434 | --- |
| Particles >21µm | ASTM D7647 | >160 | 22 | 70 | --- |
| Particles >38µm | ASTM D7647 | >40 | 3 | 1 | --- |
| Particles >71µm | ASTM D7647 | >10 | 0 | 0 | --- |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | ▲ 24/20/14 | ▲ 24/22/16 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.67 | 0.75 | --- |



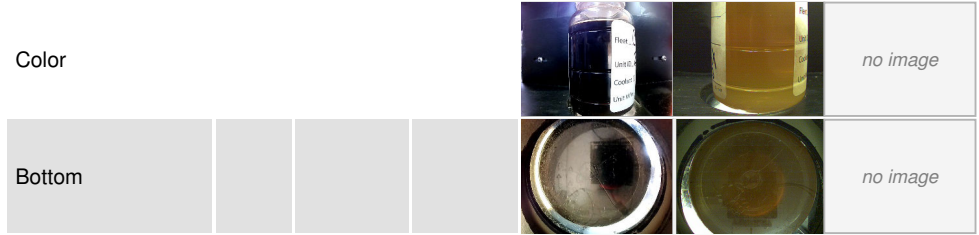
OIL ANALYSIS REPORT



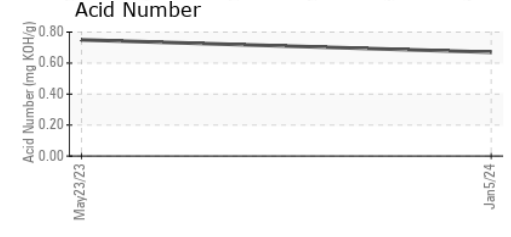
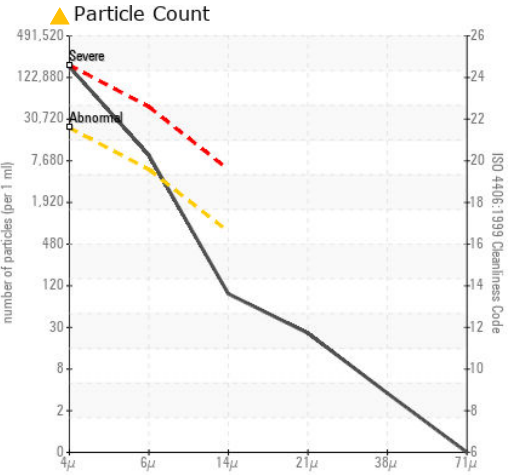
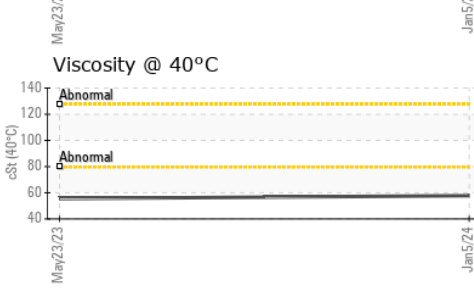
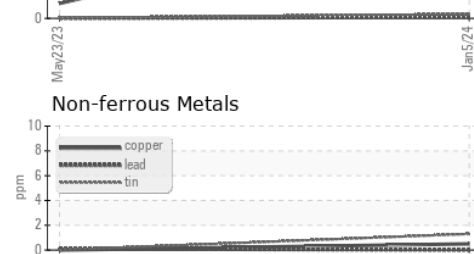
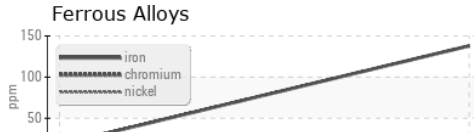
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- |
| 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 | >.2 | NEG | --- |
| Free Water | scalar | *Visual | | NEG | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|----------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 57.8 | 55.5 | --- |
| Visc @ 100°C | cSt | ASTM D445 | 10.4 | 10.1 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270 | 170 | 171 | --- |

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



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0934464 **Received** : 14 May 2024
Lab Number : 06179379 **Tested** : 16 May 2024
Unique Number : 11030705 **Diagnosed** : 16 May 2024 - Angela Borella
Test Package : MOB 2 (Additional Tests: KF, KV100, PrtCount, VI)

BASF - GIANNA CREDAROLI
 500 WHITE PLAINS RD
 TARRYTOWN, NY
 US 10591
 Contact: GIANNA CREDAROLI
 gianna.credaroli@basf.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)

T:
F: