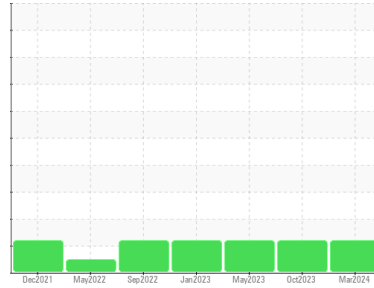




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
DICK LAVY
 Machine Id
DICK LAVY 4851
 Component
Front Differential
 Fluid
GEAR OIL SAE 75W90 (--- 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 | | WC0900820 | WC0853964 | WC0815575 |
| Sample Date | Client Info | | 03 Mar 2024 | 20 Oct 2023 | 17 May 2023 |
| Machine Age | mls | Client Info | 318589 | 256690 | 190226 |
| Oil Age | mls | 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 >500 | 278 | 255 | 199 |
| Chromium | ppm | ASTM D5185m >10 | 2 | 2 | 2 |
| Nickel | ppm | ASTM D5185m >10 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m >25 | 3 | 2 | 2 |
| Lead | ppm | ASTM D5185m >25 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m >100 | 2 | 2 | 2 |
| Tin | ppm | ASTM D5185m >10 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | 0 | <1 | <1 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m 400 | 154 | 161 | 134 |
| Barium | ppm | ASTM D5185m 200 | 0 | 0 | 2 |
| Molybdenum | ppm | ASTM D5185m 12 | <1 | 1 | <1 |
| Manganese | ppm | ASTM D5185m | 15 | 14 | 12 |
| Magnesium | ppm | ASTM D5185m 12 | 9 | 8 | 8 |
| Calcium | ppm | ASTM D5185m 150 | 45 | 39 | 41 |
| Phosphorus | ppm | ASTM D5185m 1650 | 1160 | 1078 | 1086 |
| Zinc | ppm | ASTM D5185m 125 | 26 | 20 | 26 |
| Sulfur | ppm | ASTM D5185m 22500 | 27929 | 26381 | 29022 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >75 | 47 | 50 | 27 |
| Sodium | ppm | ASTM D5185m | 5 | 3 | 3 |
| Potassium | ppm | ASTM D5185m >20 | 4 | 3 | 2 |
| Water | % | ASTM D6304 >.2 | 0.024 | 0.033 | 0.025 |
| ppm Water | ppm | ASTM D6304 >2000 | 245 | 331 | 250.4 |

FLUID CLEANLINESS

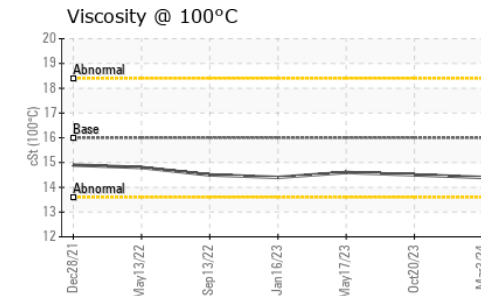
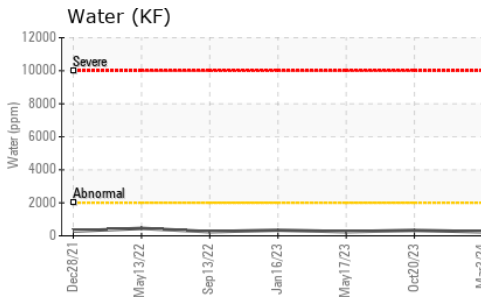
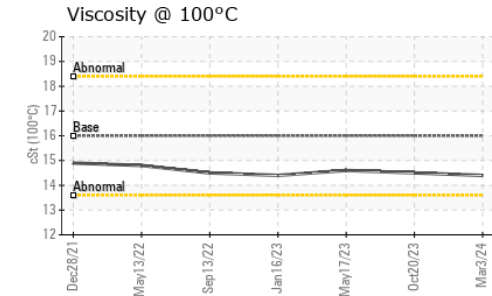
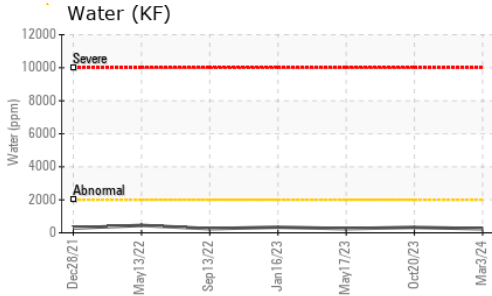
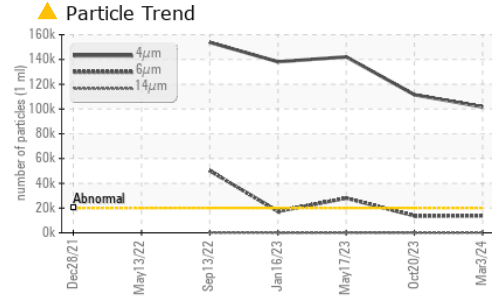
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|------------|------------|
| Particles >4µm | ASTM D7647 | >20000 | ▲ 101667 | ▲ 111520 | ▲ 142106 |
| Particles >6µm | ASTM D7647 | >5000 | ▲ 13793 | ▲ 13618 | ▲ 28008 |
| Particles >14µm | ASTM D7647 | >640 | 65 | 24 | 50 |
| Particles >21µm | ASTM D7647 | >160 | 15 | 4 | 5 |
| Particles >38µm | ASTM D7647 | >40 | 1 | 0 | 1 |
| Particles >71µm | ASTM D7647 | >10 | 0 | 0 | 1 |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | ▲ 24/21/13 | ▲ 24/21/12 | ▲ 24/22/13 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 2.00 | 2.74 | 2.40 | 2.50 |



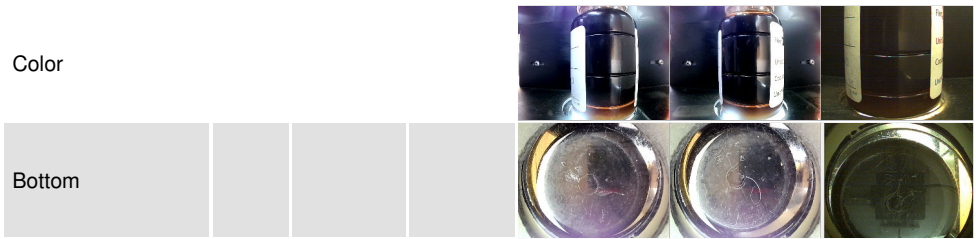
OIL ANALYSIS REPORT



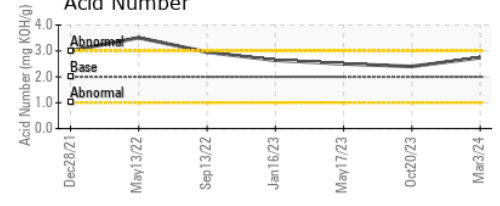
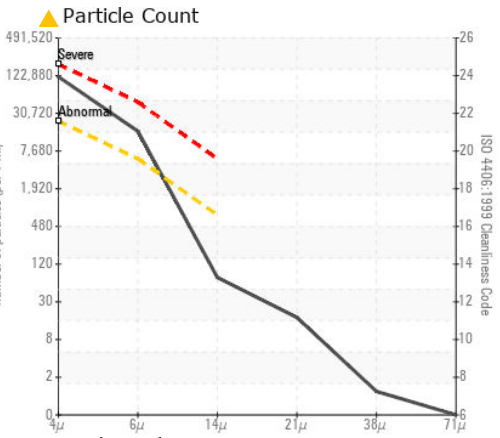
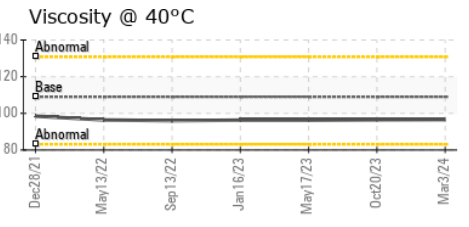
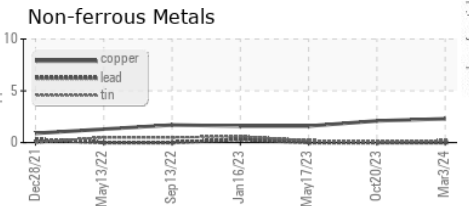
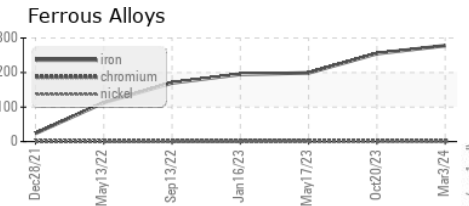
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE |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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|----------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 109 | 96.5 | 96.3 |
| Visc @ 100°C | cSt | ASTM D445 | 16.0 | 14.5 | 14.6 |
| Viscosity Index (VI) | Scale | ASTM D2270 | 157 | 155 | 157 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0900820 **Received** : 02 Apr 2024
Lab Number : 06136378 **Tested** : 03 Apr 2024
Unique Number : 10955843 **Diagnosed** : 04 Apr 2024 - Don Baldrige
Test Package : MOB 2 (Additional Tests: KF, KV100, PrtCount, VI)

BASF - GIANNA CREDAROLI
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 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)