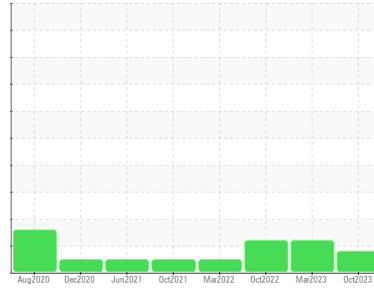




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
DICK LAVY
 Machine Id
DICK LAVY 4777
 Component
Front Differential
 Fluid
NOT GIVEN (--- 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 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 | | WC0853974 | WC0815535 | WC0765887 |
| Sample Date | Client Info | | 04 Oct 2023 | 28 Mar 2023 | 27 Oct 2022 |
| Machine Age | mls | Client Info | 446386 | 390773 | 345174 |
| Oil Age | mls | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | ATTENTION | ABNORMAL | ABNORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >500 | 244 | 204 | 201 |
| Chromium | ppm | ASTM D5185m >10 | 2 | 1 | 2 |
| Nickel | ppm | ASTM D5185m >10 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m >25 | 2 | 0 | 2 |
| Lead | ppm | ASTM D5185m >25 | <1 | 0 | <1 |
| 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 | <1 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 101 | 106 | 93 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | <1 | <1 | <1 |
| Manganese | ppm | ASTM D5185m | 11 | 10 | 9 |
| Magnesium | ppm | ASTM D5185m | 146 | 139 | 147 |
| Calcium | ppm | ASTM D5185m | 6 | 5 | 5 |
| Phosphorus | ppm | ASTM D5185m | 1620 | 1550 | 1522 |
| Zinc | ppm | ASTM D5185m | 0 | 7 | 10 |
| Sulfur | ppm | ASTM D5185m | 23866 | 23627 | 25056 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >75 | 67 | 45 | 51 |
| Sodium | ppm | ASTM D5185m | 5 | 3 | 6 |
| Potassium | ppm | ASTM D5185m >20 | 2 | 2 | 0 |
| Water | % | ASTM D6304 >.2 | 0.038 | 0.032 | 0.043 |
| ppm Water | ppm | ASTM D6304 >2000 | 388 | 324.7 | 431.4 |

FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|------------|------------|
| Particles >4µm | ASTM D7647 | >20000 | ▲ 38624 | ▲ 81692 | ▲ 102409 |
| Particles >6µm | ASTM D7647 | >5000 | ▲ 2308 | ▲ 10457 | ▲ 17597 |
| Particles >14µm | ASTM D7647 | >640 | ▲ 18 | 46 | 68 |
| Particles >21µm | ASTM D7647 | >160 | ▲ 6 | 6 | 5 |
| Particles >38µm | ASTM D7647 | >40 | ▲ 1 | 0 | 1 |
| Particles >71µm | ASTM D7647 | >10 | ▲ 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | ▲ 22/18/11 | ▲ 24/21/13 | ▲ 24/21/13 |

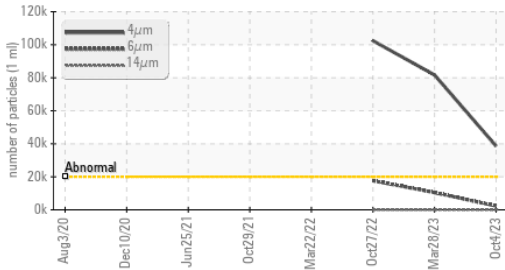
FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.81 | 0.87 | 0.79 |

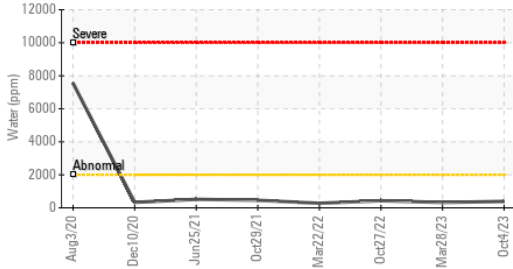


OIL ANALYSIS REPORT

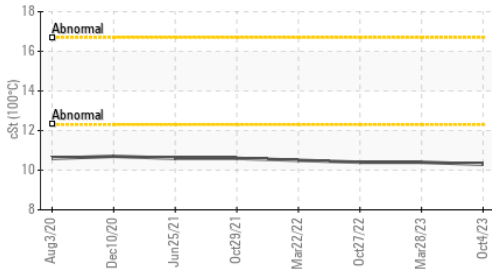
Particle Trend



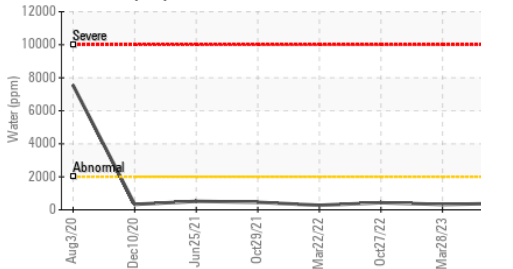
Water (KF)



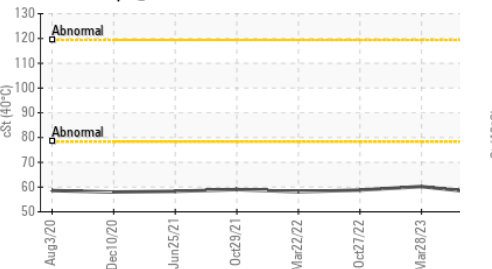
Viscosity @ 100°C



Water (KF)



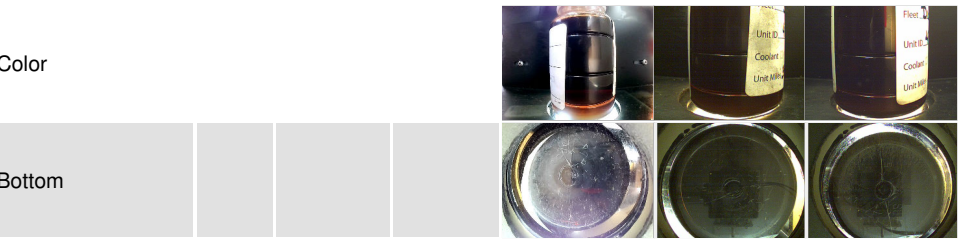
Viscosity @ 40°C



| 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 |

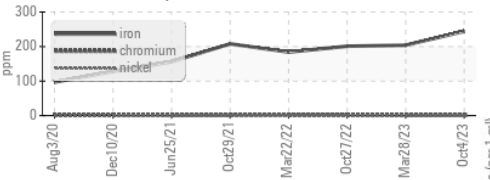
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|----------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 57.6 | 60.2 | 58.8 |
| Visc @ 100°C | cSt | ASTM D445 | 10.3 | 10.4 | 10.4 |
| Viscosity Index (VI) | Scale | ASTM D2270 | 169 | 162 | 167 |

SAMPLE IMAGES

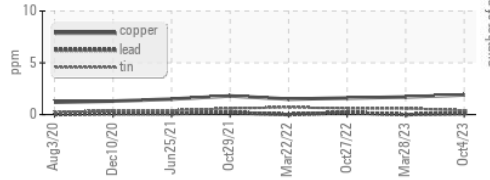


GRAPHS

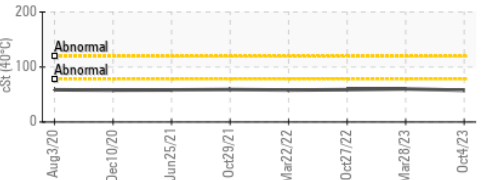
Ferrous Alloys



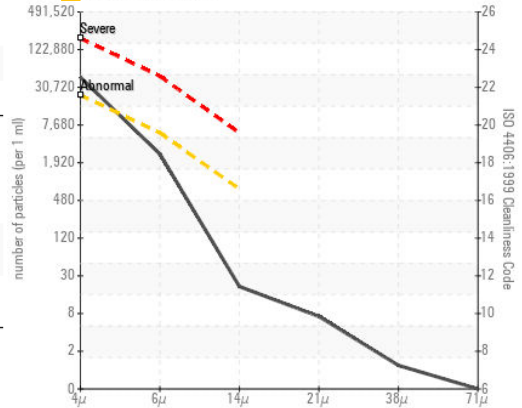
Non-ferrous Metals



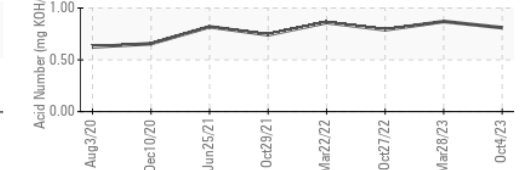
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0853974 **Received** : 21 Nov 2023
Lab Number : 06014533 **Diagnosed** : 24 Nov 2023
Unique Number : 10753677 **Diagnostician** : Don Baldrige
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: