



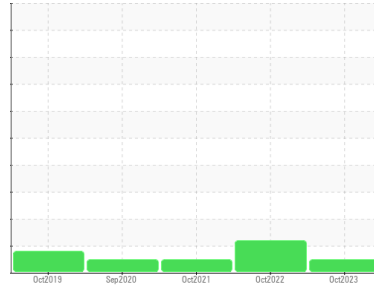
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
CATERPILLAR PORT (S/N 9WR01479)
 Component
Port Transmission
 Fluid
SHELL ROTELLA T 40 (--- GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the fluid.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | RW0004162 | RW0004156 | RW0001506 |
| Sample Date | Client Info | | 14 Oct 2023 | 29 Oct 2022 | 08 Oct 2021 |
| Machine Age | hrs | Client Info | 2077 | 2003 | 1930 |
| Oil Age | hrs | Client Info | 76 | 73 | 43 |
| Oil Changed | Client Info | | Changed | Changed | Changed |
| Sample Status | | | NORMAL | ATTENTION | NORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|----------|--------|-------------|---------|------------|----------|----|
| Iron | ppm | ASTM D5185m | >200 | 23 | 24 | 25 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >50 | 1 | 3 | 3 |
| Lead | ppm | ASTM D5185m | >50 | 18 | 14 | 22 |
| Copper | ppm | ASTM D5185m | >200 | 31 | 19 | 20 |
| Tin | ppm | ASTM D5185m | >10 | 0 | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | --- | --- | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | <1 | <1 |

ADDITIVES

| | method | limit/base | current | history1 | history2 | |
|------------|--------|-------------|---------|-------------|----------|------|
| Boron | ppm | ASTM D5185m | 0 | 61 | ▲ 155 | 14 |
| Barium | ppm | ASTM D5185m | | 6 | 2 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 102 | 34 | 117 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 432 | 24 | ▲ 38 | 75 |
| Calcium | ppm | ASTM D5185m | 1121 | 2822 | 2333 | 2473 |
| Phosphorus | ppm | ASTM D5185m | 996 | 1239 | 1003 | 933 |
| Zinc | ppm | ASTM D5185m | 881 | 1262 | 1155 | 934 |
| Sulfur | ppm | ASTM D5185m | | 4296 | 4059 | 3151 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|-------------|---------|----------|----------|---|
| Silicon | ppm | ASTM D5185m | >50 | 3 | 4 | 3 |
| Sodium | ppm | ASTM D5185m | | 0 | <1 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 7 | 0 |

FLUID DEGRADATION

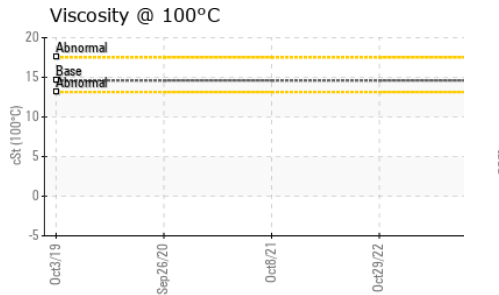
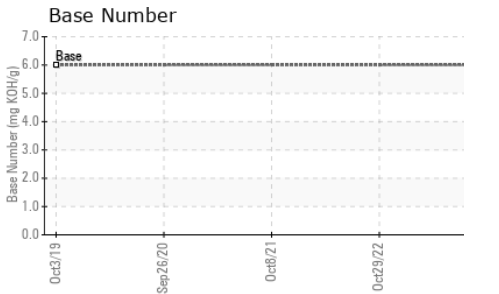
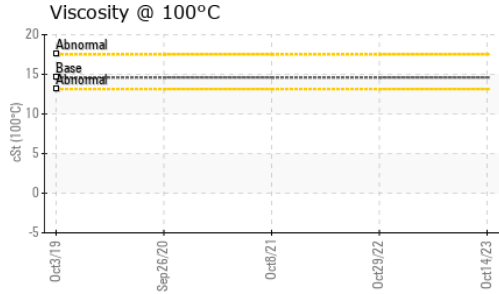
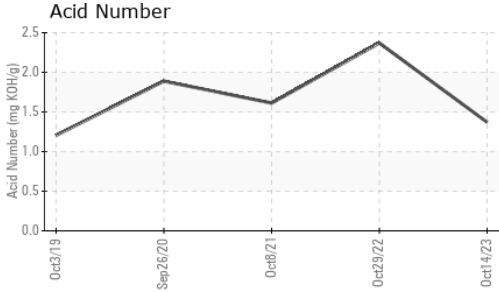
| | method | limit/base | current | history1 | history2 | |
|------------------|----------|------------|---------|-------------|----------|-------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 1.37 | 2.37 | 1.612 |

VISUAL

| | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|--------------|----------|-------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |



OIL ANALYSIS REPORT

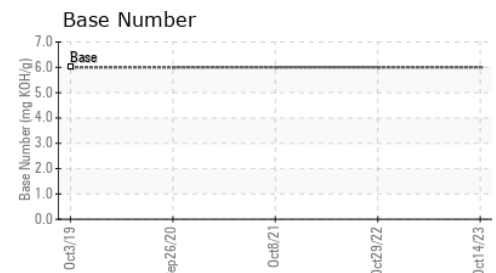
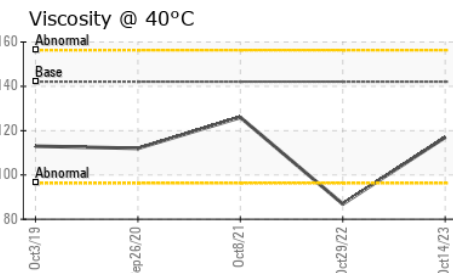
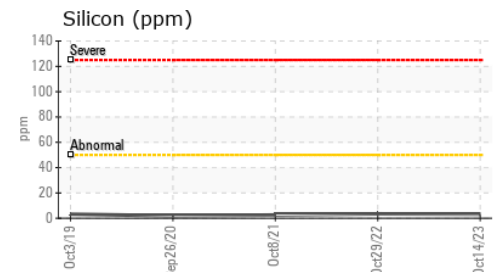
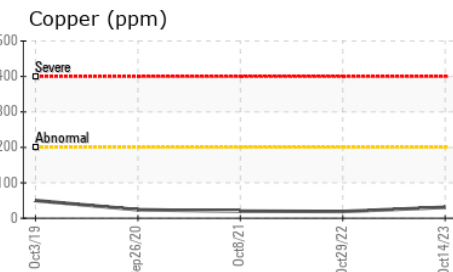
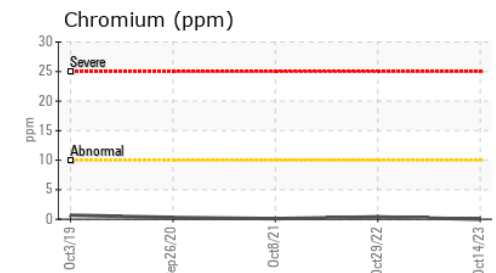
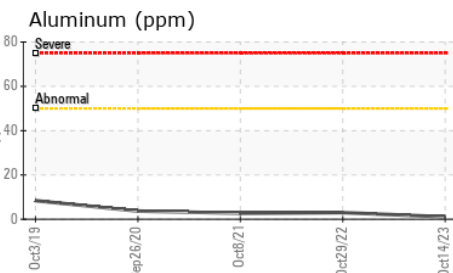
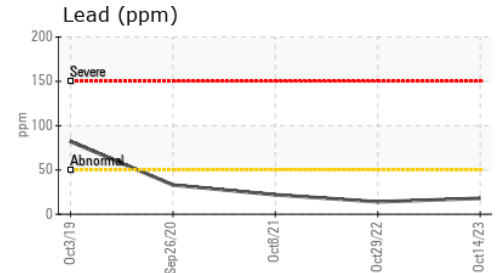
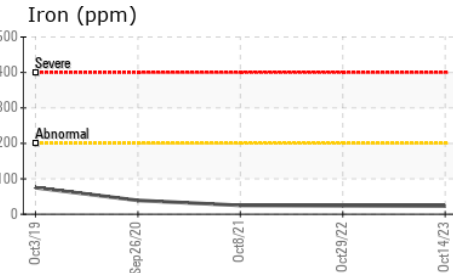


| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|------------------|-----|-----------|------------|------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 142.1 | 117 | ▲ 86.9 | 126 |

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

| | | | |
|--------|----------|--|----------|
| Color | no image | | no image |
| Bottom | no image | | no image |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RW0004162 **Received** : 15 Nov 2023
Lab Number : 06009139 **Diagnosed** : 17 Nov 2023
Unique Number : 10742901 **Diagnostician** : Angela Borella
Test Package : MOB 2 (Additional Tests: FT-IR, KV100, TBN)

RUSS SAGER
 109 BAY SHORE DR
 BAY CITY, MI
 US 48706
 Contact: RUSS SAGER
 rsager@dpbrownntech.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: