



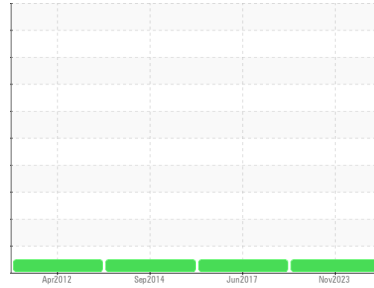
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
CATERPILLAR 420 DIT 549 (S/N PHC00254)
 Component
Front Transmission (Manual)
 Fluid
TDH FLUID SAE 75W80 (18 QTS)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) TDH FLUID SAE 75W80. Please confirm.

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 | | RW0004537 | RWM2296200 | RWM2223886 |
| Sample Date | Client Info | | 05 Nov 2023 | 28 Jun 2017 | 25 Sep 2014 |
| Machine Age | hrs | Client Info | 5909 | 4046 | 2600 |
| Oil Age | hrs | Client Info | 957 | 1000 | 2000 |
| Oil Changed | | Client Info | Changed | Changed | Changed |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|----------|--------|-------------|---------|--------------|----------|----|
| Iron | ppm | ASTM D5185m | >200 | 6 | 5 | 16 |
| Chromium | ppm | ASTM D5185m | >5 | <1 | <1 | 1 |
| Nickel | ppm | ASTM D5185m | >5 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >7 | <1 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | 1 | 2 | 4 |
| Lead | ppm | ASTM D5185m | >45 | <1 | <1 | 12 |
| Copper | ppm | ASTM D5185m | >225 | 13 | 4 | 26 |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185m | | --- | 0 | 7 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | <1 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 | |
|------------|--------|-------------|---------|-------------|----------|------|
| Boron | ppm | ASTM D5185m | 10 | 9 | 10 | 54 |
| Barium | ppm | ASTM D5185m | 10 | 2 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | 10 | 6 | 2 | 12 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | 1 |
| Magnesium | ppm | ASTM D5185m | 100 | 52 | 22 | 23 |
| Calcium | ppm | ASTM D5185m | 3500 | 2625 | 2993 | 3167 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 981 | 914 | 984 |
| Zinc | ppm | ASTM D5185m | 1150 | 1108 | 1119 | 1341 |
| Sulfur | ppm | ASTM D5185m | 5000 | 4358 | 5870 | 1544 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|-------------|---------|----------|----------|---|
| Silicon | ppm | ASTM D5185m | >125 | 3 | 7 | 5 |
| Sodium | ppm | ASTM D5185m | | 0 | 3 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 0 | 0 |

FLUID DEGRADATION

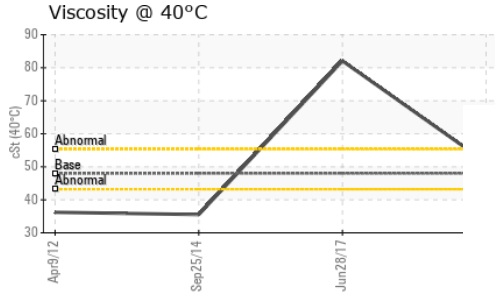
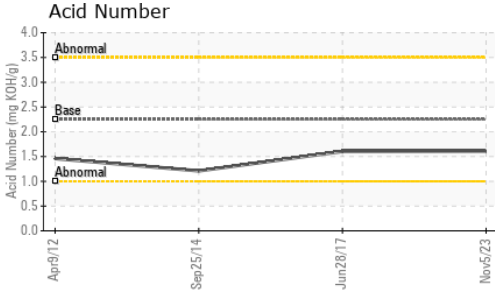
| | method | limit/base | current | history1 | history2 | |
|------------------|----------|------------|---------|-------------|----------|------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 2.25 | 1.61 | 1.604 | 1.21 |

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 |



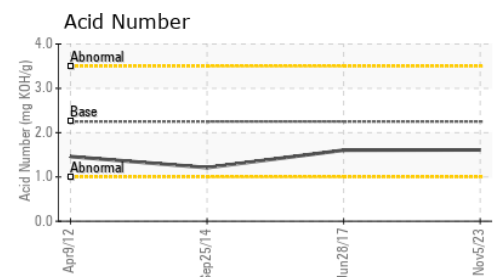
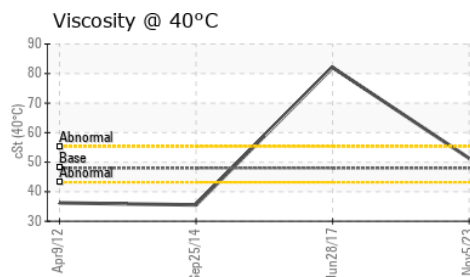
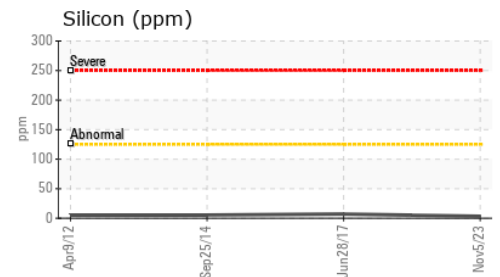
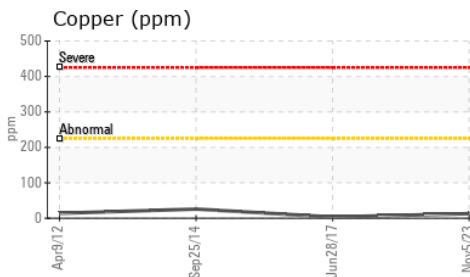
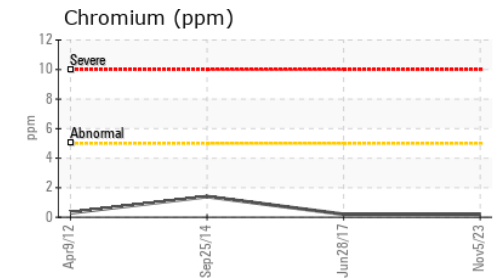
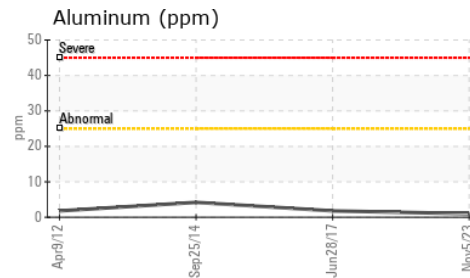
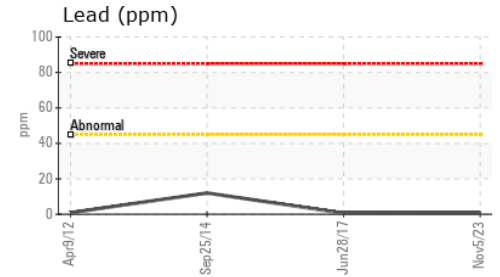
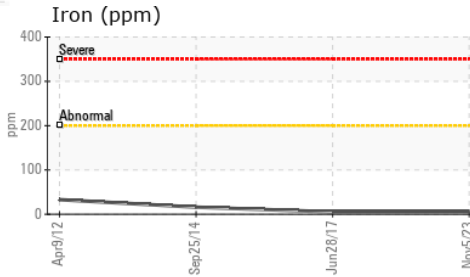
OIL ANALYSIS REPORT



| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|------------------|-----|-----------|------------|-------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 48 | 51.3 | 82.06 | 35.53 |

| 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. : RW0004537 **Received** : 06 Nov 2023
Lab Number : 05999187 **Diagnosed** : 07 Nov 2023
Unique Number : 10727547 **Diagnostician** : Wes Davis
Test Package : MOB 2

NEWKIRK ELECTRIC
 1875 ROBERTS ST.
 MUSKEGON, MI
 US 49442

Contact: ERIC KING
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 T: (231)206-6131
 F: (231)724-4090

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)