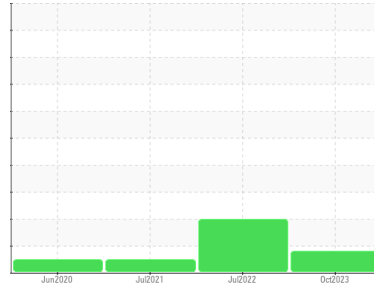




PROBLEM SUMMARY

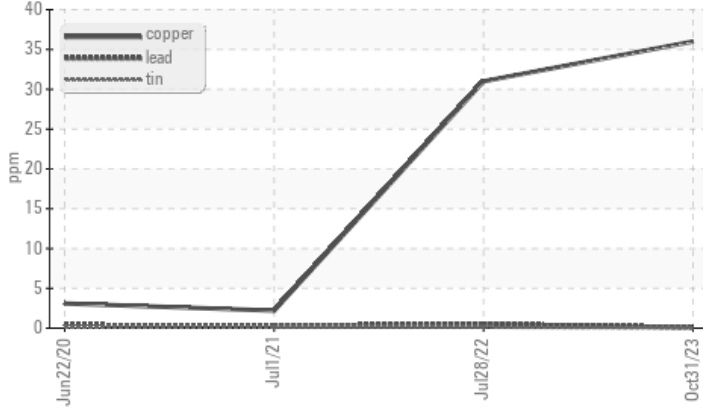
Sample Rating Trend



Area
MT
 Machine Id
TEST CELL A4 - 2
 Component
Hydraulic System
 Fluid
MOBIL DTE 25 (30 GAL)

COMPONENT CONDITION SUMMARY

▲ Non-ferrous Metals



RECOMMENDATION

No corrective action is recommended at this time.
 Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

| Sample Status | | | | ABNORMAL | ABNORMAL | NORMAL |
|---------------|-----|-------------|-----|-----------------|----------|--------|
| Copper | ppm | ASTM D5185m | >20 | ▲ 36 | ▲ 31 | 2 |

Customer Id: MICGRE
 Sample No.: WC0810918
 Lab Number: 05996646
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

28 Jul 2022 Diag: Don Baldrige

WEAR



No corrective action is recommended at this time. Resample at the next service interval to monitor. The copper level is abnormal. All other component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



01 Jul 2021 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



22 Jun 2020 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

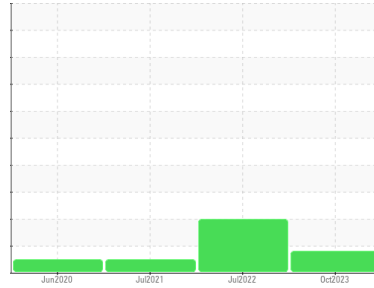
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area
MT
 Machine Id
TEST CELL A4 - 2
 Component
Hydraulic System
 Fluid
MOBIL DTE 25 (30 GAL)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

▲ Wear

The copper level is abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

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 | | WC0810918 | WC0611433 | WC0502681 |
| Sample Date | Client Info | | 31 Oct 2023 | 28 Jul 2022 | 01 Jul 2021 |
| Machine Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | Not Changed | Not Changd | Not Changed |
| Sample Status | | | ABNORMAL | ABNORMAL | NORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|-----------------|--------------|-------------|----------|
| Iron | ppm | ASTM D5185m >20 | 7 | 7 | <1 |
| Chromium | ppm | ASTM D5185m >20 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m >20 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >20 | <1 | <1 | 0 |
| Lead | ppm | ASTM D5185m >20 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185m >20 | ▲ 36 | ▲ 31 | 2 |
| Tin | ppm | ASTM D5185m >20 | 0 | <1 | <1 |
| Antimony | ppm | ASTM D5185m | --- | --- | 0 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | <1 | <1 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 0 | <1 | <1 |
| Barium | ppm | ASTM D5185m | <1 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | <1 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 1 | 1 | <1 |
| Calcium | ppm | ASTM D5185m | 100 | 100 | 126 |
| Phosphorus | ppm | ASTM D5185m | 402 | 419 | 476 |
| Zinc | ppm | ASTM D5185m | 626 | 631 | 695 |
| Sulfur | ppm | ASTM D5185m | 6096 | 6874 | 5539 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185m >15 | 1 | 1 | 0 |
| Sodium | ppm | ASTM D5185m | 0 | 0 | <1 |
| Potassium | ppm | ASTM D5185m >20 | 2 | 1 | 0 |

FLUID CLEANLINESS

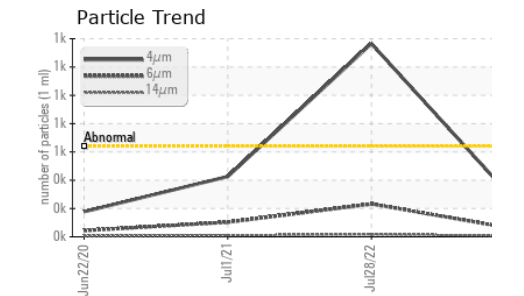
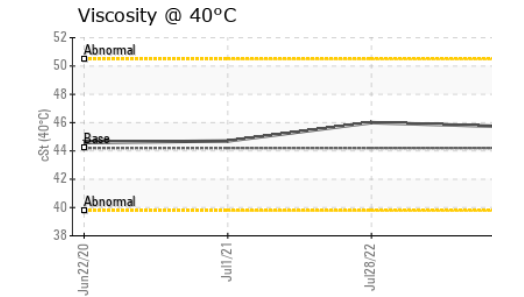
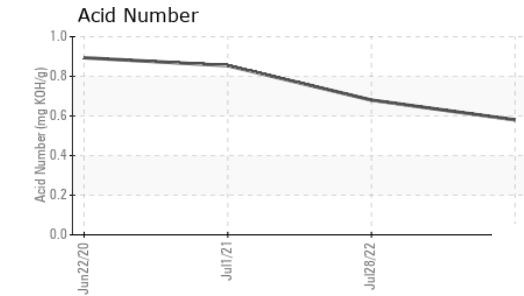
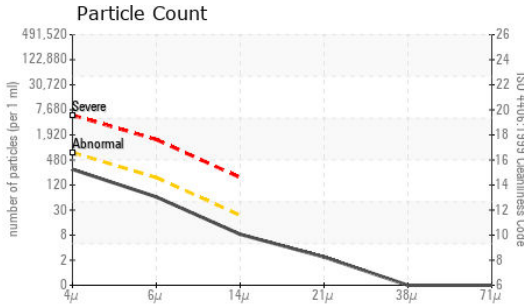
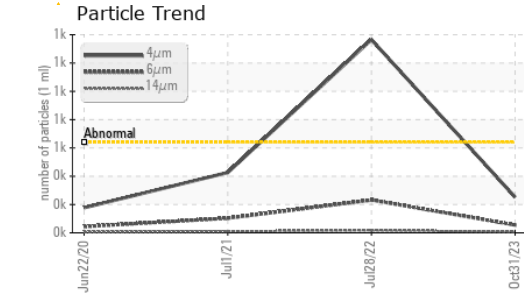
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-----------------|-------------------|----------|
| Particles >4µm | ASTM D7647 | >640 | 252 | ▲ 1365 | 426 |
| Particles >6µm | ASTM D7647 | >160 | 55 | ▲ 232 | 103 |
| Particles >14µm | ASTM D7647 | >20 | 7 | 17 | 10 |
| Particles >21µm | ASTM D7647 | >4 | 2 | 2 | 3 |
| Particles >38µm | ASTM D7647 | >3 | 0 | 0 | 0 |
| Particles >71µm | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >16/14/11 | 15/13/10 | ▲ 18/15/11 | 16/14/10 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.58 | 0.68 | 0.854 |



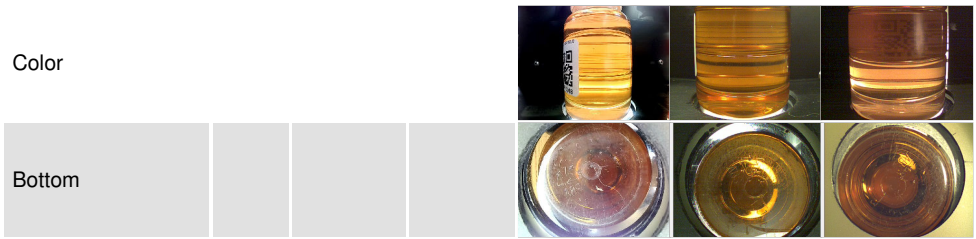
OIL ANALYSIS REPORT



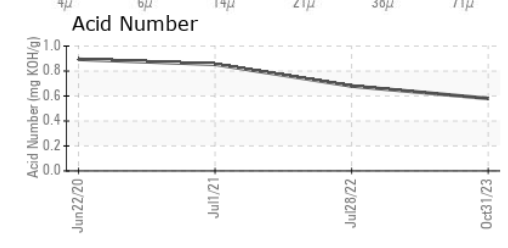
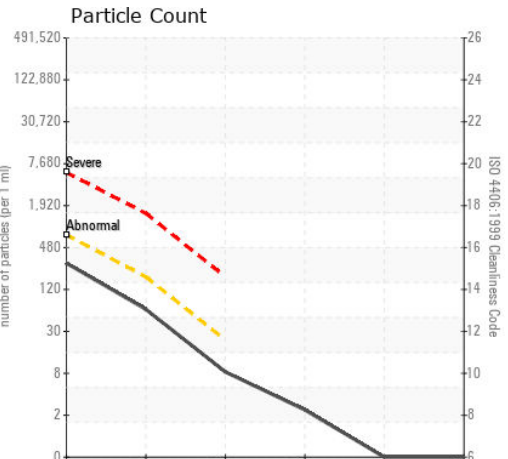
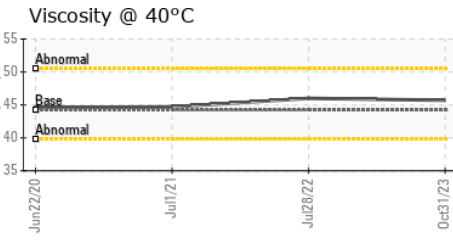
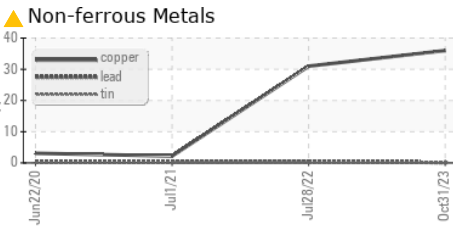
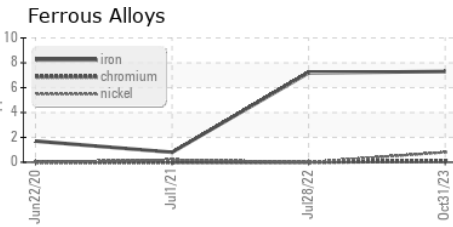
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | >0.05 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 44.2 | 45.7 | 46.0 |

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0810918 **Received** : 02 Nov 2023
Lab Number : 05996646 **Diagnosed** : 04 Nov 2023
Unique Number : 10725006 **Diagnostician** : Don Baldrige
Test Package : IND 2

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 US 29605
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 vince.wilson@michelin.com
 T: (864)422-3913
 F: (864)422-3518

Certificate L2367
 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)