



OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
MET EXPRESS
 Machine Id
MET EXPRESS 24016
 Component
Front Differential
 Fluid
NOT GIVEN (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| SAMPLE INFORMATION | method | limit/base | current | history 1 | history 2 |
|--------------------|-------------|-------------|--------------------|-----------|-----------|
| Sample Number | Client Info | | WC0828803 | --- | --- |
| Sample Date | Client Info | | 16 May 2023 | --- | --- |
| Machine Age | mls | Client Info | 532 | --- | --- |
| Oil Age | mls | Client Info | 0 | --- | --- |
| Oil Changed | Client Info | | N/A | --- | --- |
| Sample Status | | | ABNORMAL | --- | --- |

| WEAR METALS | method | limit/base | current | history 1 | history 2 |
|-------------|--------|------------------|--------------|-----------|-----------|
| Iron | ppm | ASTM D5185m >500 | 11 | --- | --- |
| Chromium | ppm | ASTM D5185m >10 | <1 | --- | --- |
| Nickel | ppm | ASTM D5185m >10 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185m | 0 | --- | --- |
| Silver | ppm | ASTM D5185m | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m >25 | 0 | --- | --- |
| Lead | ppm | ASTM D5185m >25 | <1 | --- | --- |
| Copper | ppm | ASTM D5185m >100 | 0 | --- | --- |
| Tin | ppm | ASTM D5185m >10 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | 0 | --- | --- |
| Cadmium | ppm | ASTM D5185m | 0 | --- | --- |

| ADDITIVES | method | limit/base | current | history 1 | history 2 |
|------------|--------|-------------|--------------|-----------|-----------|
| Boron | ppm | ASTM D5185m | 95 | --- | --- |
| Barium | ppm | ASTM D5185m | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | <1 | --- | --- |
| Manganese | ppm | ASTM D5185m | 2 | --- | --- |
| Magnesium | ppm | ASTM D5185m | 199 | --- | --- |
| Calcium | ppm | ASTM D5185m | 2 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 2165 | --- | --- |
| Zinc | ppm | ASTM D5185m | 0 | --- | --- |
| Sulfur | ppm | ASTM D5185m | 31251 | --- | --- |

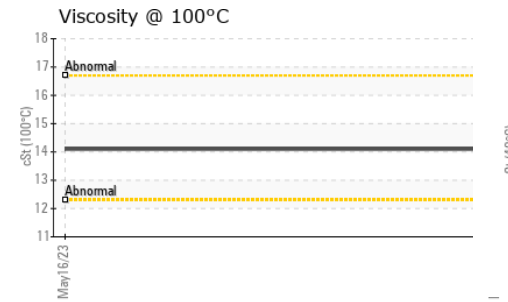
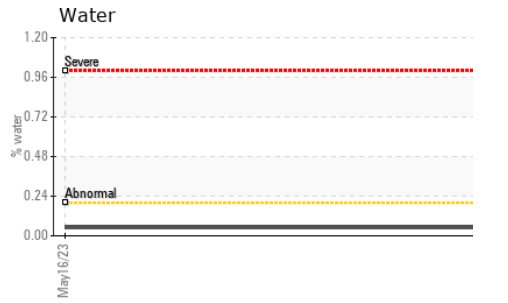
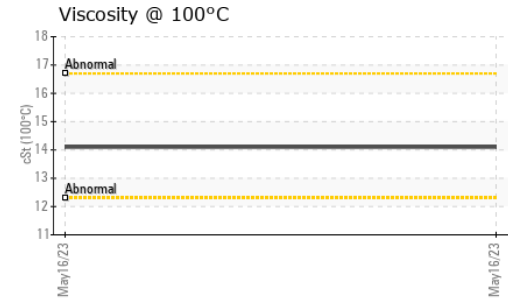
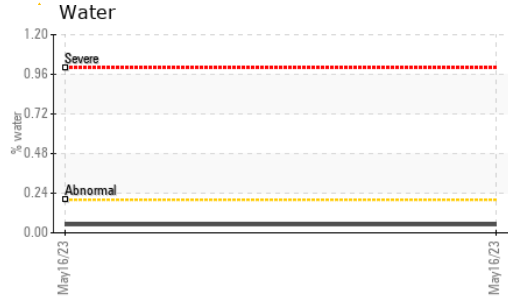
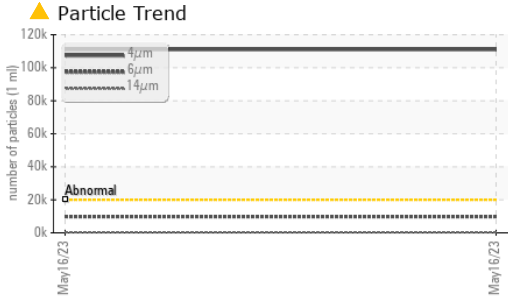
| CONTAMINANTS | method | limit/base | current | history 1 | history 2 |
|--------------|--------|------------------|--------------|-----------|-----------|
| Silicon | ppm | ASTM D5185m >75 | 3 | --- | --- |
| Sodium | ppm | ASTM D5185m | 1 | --- | --- |
| Potassium | ppm | ASTM D5185m >20 | 3 | --- | --- |
| Water | % | ASTM D6304 >.2 | 0.050 | --- | --- |
| ppm Water | ppm | ASTM D6304 >2000 | 501.4 | --- | --- |

| FLUID CLEANLINESS | method | limit/base | current | history 1 | history 2 |
|-------------------|--------------|------------|-------------------|-----------|-----------|
| Particles >4µm | ASTM D7647 | >20000 | ▲ 111032 | --- | --- |
| Particles >6µm | ASTM D7647 | >5000 | ▲ 9820 | --- | --- |
| Particles >14µm | ASTM D7647 | >640 | 338 | --- | --- |
| Particles >21µm | ASTM D7647 | >160 | 143 | --- | --- |
| Particles >38µm | ASTM D7647 | >40 | 3 | --- | --- |
| Particles >71µm | ASTM D7647 | >10 | 0 | --- | --- |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | ▲ 24/20/16 | --- | --- |

| FLUID DEGRADATION | method | limit/base | current | history 1 | history 2 |
|-------------------|----------|------------|-------------|-----------|-----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.19 | --- | --- |



OIL ANALYSIS REPORT



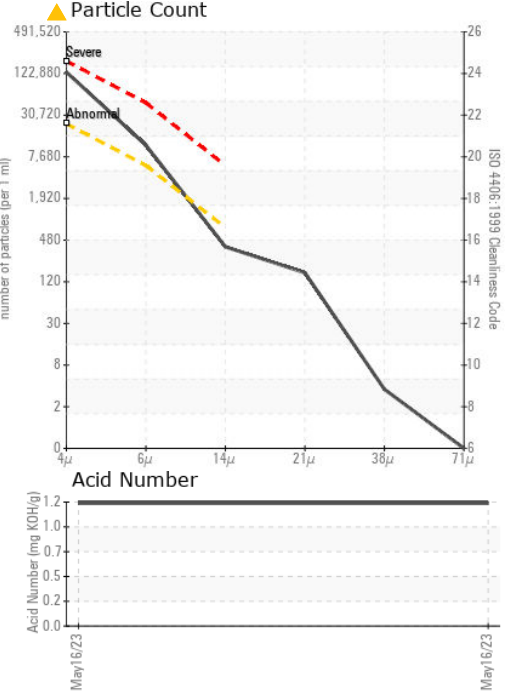
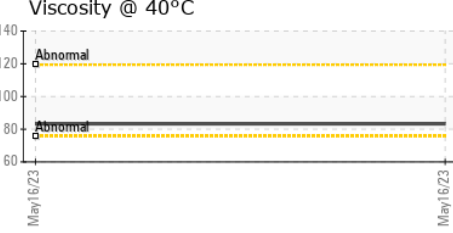
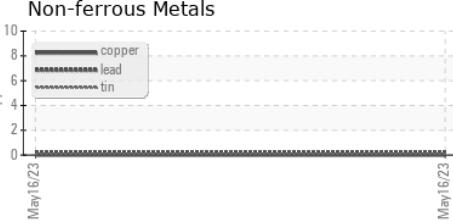
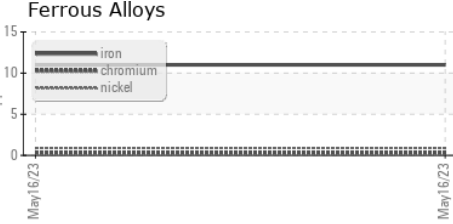
| VISUAL | method | limit/base | current | history 1 | history 2 |
|------------------|--------|------------|---------|-----------|-----------|
| White Metal | scalar | *Visual | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- |
| Silt | scalar | *Visual | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | --- |
| Odor | scalar | *Visual | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >.2 | NEG | --- |
| Free Water | scalar | *Visual | | NEG | --- |

| FLUID PROPERTIES | method | limit/base | current | history 1 | history 2 |
|----------------------|--------|------------|---------|-----------|-----------|
| Visc @ 40°C | cSt | ASTM D445 | 83.3 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | 14.1 | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270 | 175 | --- | --- |

SAMPLE IMAGES

| method | limit/base | current | history 1 | history 2 |
|--------|------------|---------|-----------|-----------|
| Color | | | no image | no image |
| Bottom | | | no image | no image |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0828803 **Received** : 22 Jun 2023
Lab Number : 05881466 **Diagnosed** : 30 Jun 2023
Unique Number : 10526569 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: KF, KV100, PrtCount, VI)

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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)