



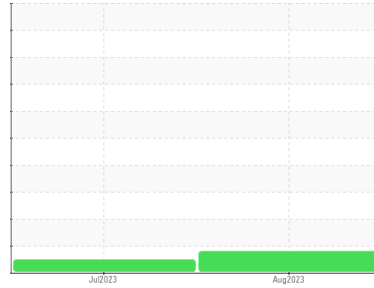
OIL ANALYSIS REPORT

Sample Rating Trend

WEAR



Area
CHAD STEELE
 Machine Id
19-064S13-1
 Component
Hydraulic System
 Fluid
NOT GIVEN (--- QTS)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

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 | | WC0703253 | WC0837692 | --- |
| Sample Date | Client Info | | 24 Aug 2023 | 31 Jul 2023 | --- |
| Machine Age | hrs | Client Info | 168 | 0 | --- |
| Oil Age | hrs | Client Info | 0 | 0 | --- |
| Oil Changed | Client Info | | N/A | N/A | --- |
| Sample Status | | | ABNORMAL | NORMAL | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|----------|--------|-------------|---------|--------------|----------|-----|
| Iron | ppm | ASTM D5185m | >20 | 0 | 0 | --- |
| Chromium | ppm | ASTM D5185m | >10 | 0 | 0 | --- |
| Nickel | ppm | ASTM D5185m | >10 | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Silver | ppm | ASTM D5185m | | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >10 | 0 | <1 | --- |
| Lead | ppm | ASTM D5185m | >10 | 0 | 0 | --- |
| Copper | ppm | ASTM D5185m | >75 | ▲ 108 | 0 | --- |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | --- |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | --- |

ADDITIVES

| | method | limit/base | current | history1 | history2 | |
|------------|--------|-------------|---------|-------------|----------|-----|
| Boron | ppm | ASTM D5185m | | 75 | 90 | --- |
| Barium | ppm | ASTM D5185m | | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | --- |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | --- |
| Magnesium | ppm | ASTM D5185m | | 0 | 3 | --- |
| Calcium | ppm | ASTM D5185m | | 389 | 368 | --- |
| Phosphorus | ppm | ASTM D5185m | | 356 | 340 | --- |
| Zinc | ppm | ASTM D5185m | | 0 | 2 | --- |
| Sulfur | ppm | ASTM D5185m | | 1302 | 1648 | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|-------------|---------|--------------|----------|-----|
| Silicon | ppm | ASTM D5185m | >20 | <1 | 4 | --- |
| Sodium | ppm | ASTM D5185m | | 1 | <1 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | --- |
| Water | % | ASTM D6304 | >0.1 | 0.022 | 0.024 | --- |
| ppm Water | ppm | ASTM D6304 | >1000 | 221.4 | 242.3 | --- |

FLUID CLEANLINESS

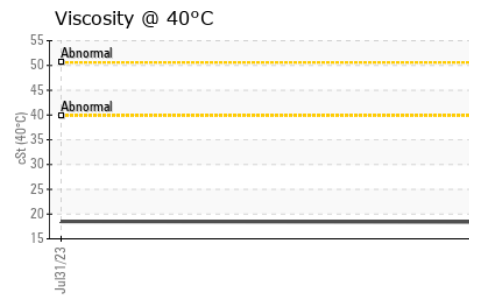
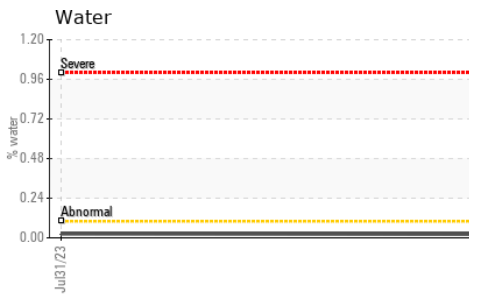
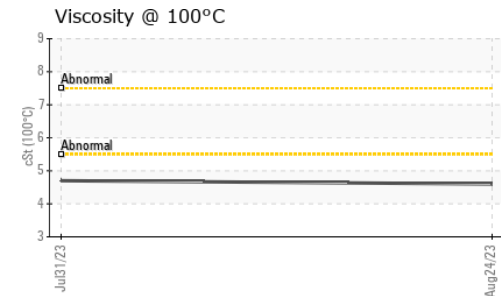
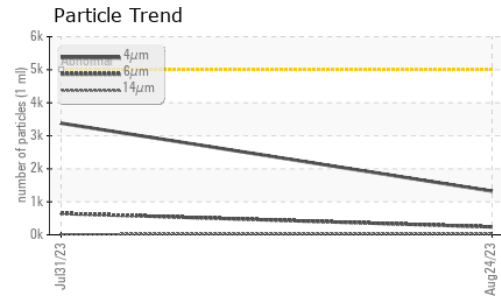
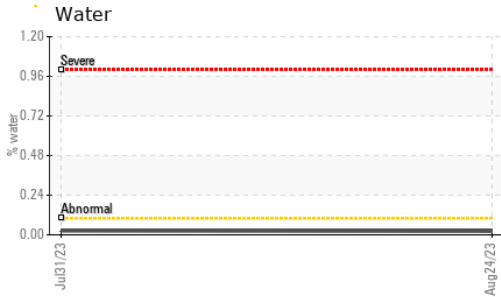
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >5000 | 1323 | 3379 | --- |
| Particles >6µm | ASTM D7647 | >1300 | 240 | 647 | --- |
| Particles >14µm | ASTM D7647 | >160 | 28 | 16 | --- |
| Particles >21µm | ASTM D7647 | >40 | 6 | 3 | --- |
| Particles >38µm | ASTM D7647 | >10 | 0 | 0 | --- |
| Particles >71µm | ASTM D7647 | >3 | 0 | 0 | --- |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | 18/15/12 | 19/17/11 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 | |
|------------------|----------|------------|---------|--------------|----------|-----|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 1.142 | 1.07 | --- |



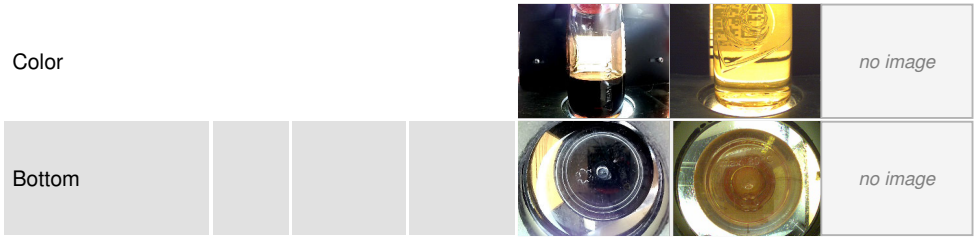
OIL ANALYSIS REPORT



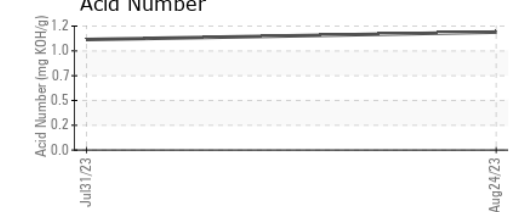
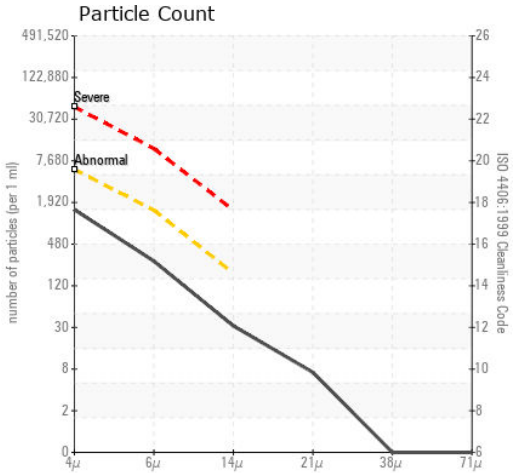
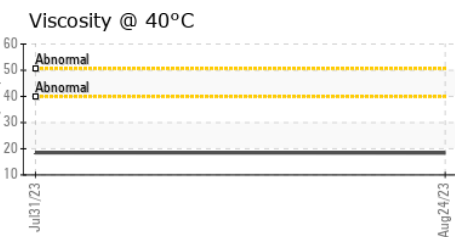
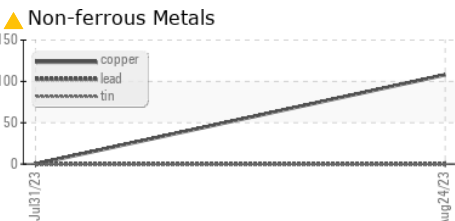
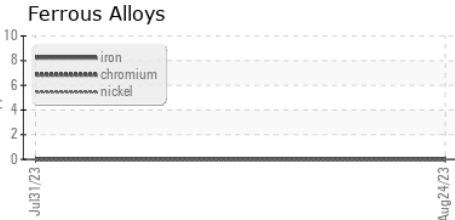
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- |
| 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 | >0.1 | NEG | --- |
| Free Water | scalar | *Visual | | NEG | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|----------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 18.4 | 18.5 | --- |
| Visc @ 100°C | cSt | ASTM D445 | 4.6 | 4.7 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270 | 178 | 187 | --- |

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0703253 **Received** : 25 Aug 2023
Lab Number : 05935377 **Diagnosed** : 03 Sep 2023
Unique Number : 10620648 **Diagnostician** : Doug Bogart
Test Package : MOB 2 (Additional Tests: KF, KV100, VI)

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)

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