



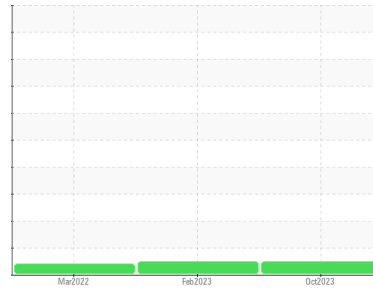
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
CATERPILLAR 2011
 Component
Hydraulic System
 Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is 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 | | WC0841467 | DC0023893 | DC0018984 |
| Sample Date | Client Info | | 25 Oct 2023 | 07 Feb 2023 | 29 Mar 2022 |
| Machine Age | hrs | Client Info | 7318 | 0 | 0 |
| Oil Age | hrs | Client Info | 300 | 0 | 0 |
| Oil Changed | Client Info | | Not Chngd | Changed | Changed |
| Sample Status | | | NORMAL | NORMAL | ABNORMAL |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|-----------------|----------|----------|----------|
| Iron | ppm | ASTM D5185m >20 | 3 | 6 | 5 |
| Chromium | ppm | ASTM D5185m >10 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m >10 | 0 | 0 | <1 |
| Lead | ppm | ASTM D5185m >10 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m >75 | 7 | 11 | 12 |
| Tin | ppm | ASTM D5185m >10 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron | ppm | ASTM D5185m 5 | 24 | 11 | 8 |
| Barium | ppm | ASTM D5185m 5 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 5 | 2 | 2 | <1 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m 25 | 16 | 8 | 4 |
| Calcium | ppm | ASTM D5185m 200 | 1236 | 578 | 365 |
| Phosphorus | ppm | ASTM D5185m 300 | 663 | 665 | 685 |
| Zinc | ppm | ASTM D5185m 370 | 925 | 854 | 822 |
| Sulfur | ppm | ASTM D5185m 2500 | 2220 | 1919 | 1635 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m >20 | 4 | 3 | 2 |
| Sodium | ppm | ASTM D5185m | 2 | 2 | 0 |
| Potassium | ppm | ASTM D5185m >20 | <1 | 2 | 0 |

FLUID CLEANLINESS

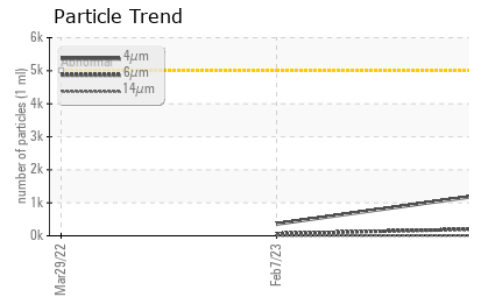
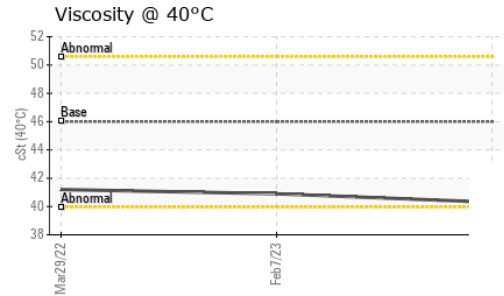
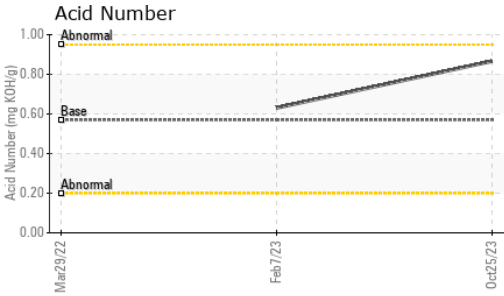
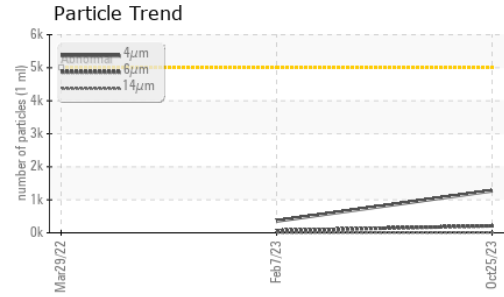
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >5000 | 1272 | 357 | --- |
| Particles >6µm | ASTM D7647 | >1300 | 212 | 66 | --- |
| Particles >14µm | ASTM D7647 | >160 | 8 | 4 | --- |
| Particles >21µm | ASTM D7647 | >40 | 2 | 2 | --- |
| Particles >38µm | ASTM D7647 | >10 | 0 | 0 | --- |
| Particles >71µm | ASTM D7647 | >3 | 0 | 0 | --- |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | 17/15/10 | 16/13/9 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.57 | 0.866 | 0.63 | --- |



OIL ANALYSIS REPORT



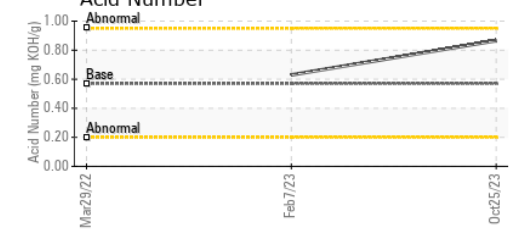
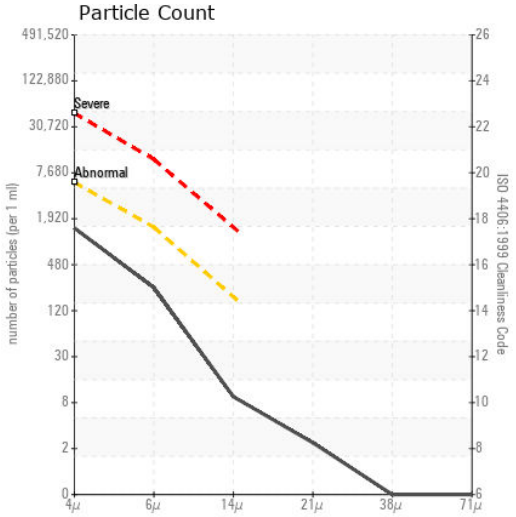
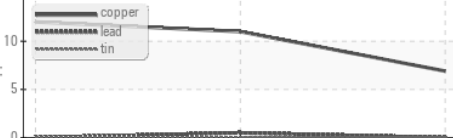
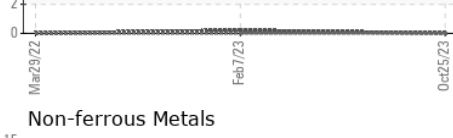
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE |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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 46 | 40.3 | 40.9 | 41.2 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0841467 **Received** : 06 Nov 2023
Lab Number : 06000160 **Diagnosed** : 14 Nov 2023
Unique Number : 10728520 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: PrtCount, TAN Man)

AARON LEASING LLC
 300 CLOVERLEAF ROAD
 YORK, PA
 US 17406
 Contact: NATHAN KENNEDY
 nkennedy@aaronleasingcompany.com
 T: (717)577-5477
 F:

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)