



OIL ANALYSIS REPORT

| | |
|-----------------|---------------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
AW 46
Component
New (Unused) Oil
Fluid
{not provided} (--- QTS)

RECOMMENDATION

This is a baseline read-out on the submitted sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | DC0031257 | DC0031196 | DC0031094 |
| Sample Date | | Client Info | | 19 Feb 2024 | 07 Feb 2024 | 30 Jan 2024 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

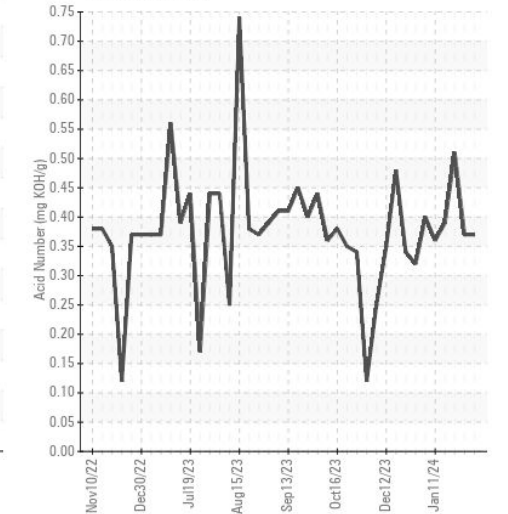
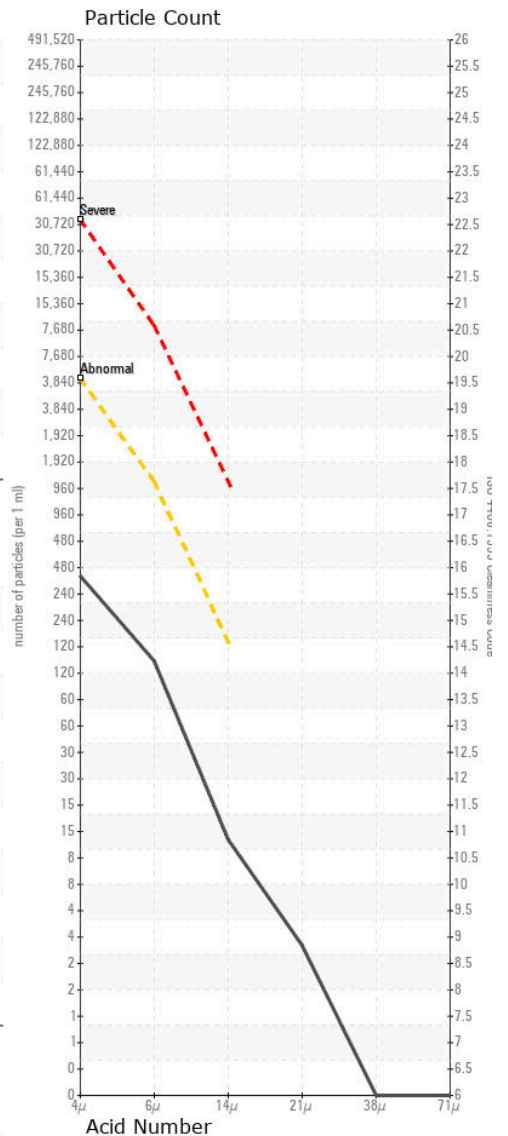
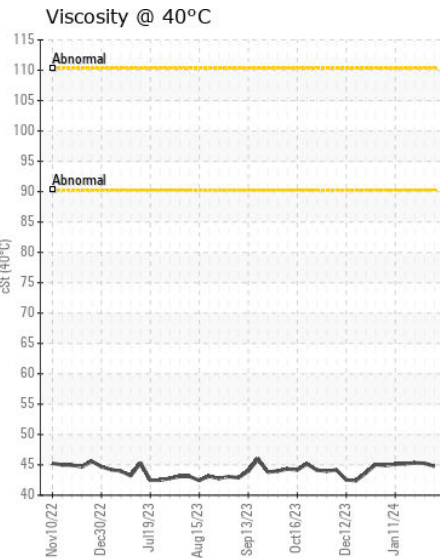
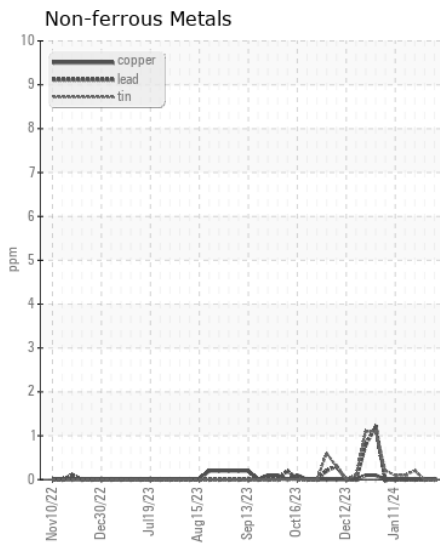
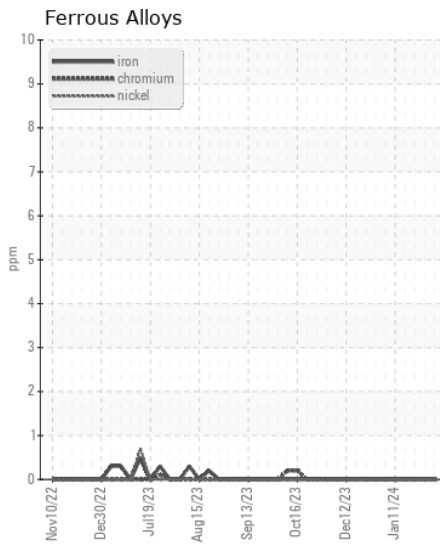
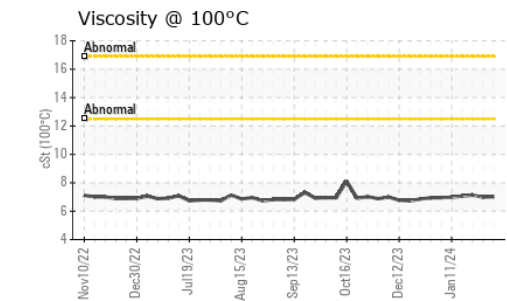
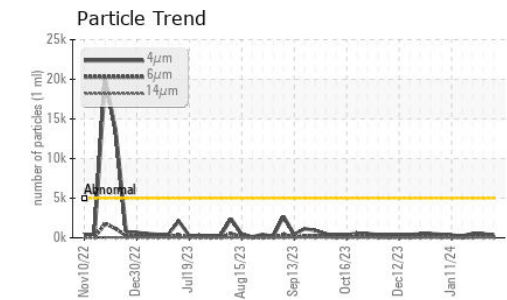
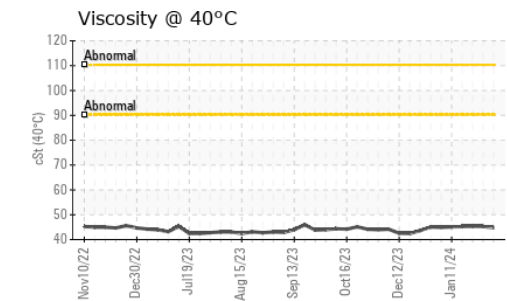
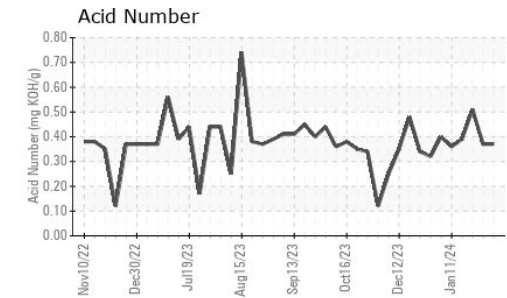
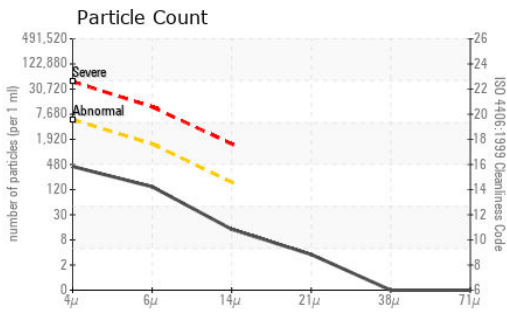
| | | | | | | |
|--------------|--------|-------------|------|-------------|------|------|
| Iron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Chromium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Tin | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

| | | | | | | |
|------------------|--------|--------------|-----------|-----------------|----------|----------|
| Silicon | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| Water | | WC Method | | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >5000 | 378 | 506 | 533 |
| Particles >6µm | | ASTM D7647 | >1300 | 124 | 170 | 123 |
| Particles >14µm | | ASTM D7647 | >160 | 12 | 20 | 10 |
| Particles >21µm | | ASTM D7647 | >40 | 3 | 3 | 3 |
| Particles >38µm | | ASTM D7647 | >10 | 0 | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 1 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | 16/14/11 | 16/15/11 | 16/14/10 |
| 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 | | NEG | NEG | NEG |

FLUID CONDITION

| | | | | | | |
|----------------------|----------|-------------|--|--------------|-------|-------|
| Sodium | ppm | ASTM D5185m | | 2 | 2 | 2 |
| Boron | ppm | ASTM D5185m | | 1 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | 102 | 100 | 98 |
| Calcium | ppm | ASTM D5185m | | 73 | 74 | 68 |
| Phosphorus | ppm | ASTM D5185m | | 332 | 361 | 330 |
| Zinc | ppm | ASTM D5185m | | 413 | 416 | 419 |
| Sulfur | ppm | ASTM D5185m | | 6104 | 5822 | 6193 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.37 | 0.37 | 0.51 |
| Visc @ 40°C | cSt | ASTM D445 | | 44.78 | 45.25 | 45.33 |
| Visc @ 100°C | cSt | ASTM D445 | | 7.02 | 6.98 | 7.13 |
| Viscosity Index (VI) | Scale | ASTM D2270 | | 114 | 111 | 116 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0031257
Lab Number : 06102124
Unique Number : 10900354
Test Package : MOB 2 (Additional Tests: FT-IR, ICP-NewOil, KV100, PrtCount, VI)

THE UNITED OIL COMPANY - OPERATIONS
 4405 E. BALTIMORE ST
 BALTIMORE, MD
 US 21224
 Contact: MICHELLE HORNING

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)

T:
 F: (410)327-7695