



# OIL ANALYSIS REPORT

|                 |               |
|-----------------|---------------|
| WEAR            | <b>NORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b> |

Machine Id  
**AW 32**  
 Component  
**New (Unused) Oil**  
 Fluid  
**{not provided} (--- LTR)**

## RECOMMENDATION

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

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>DC0031228</b>   | DC0031234   | DC0031220   |
| Sample Date    |     | Client Info |           | <b>23 Feb 2024</b> | 23 Feb 2024 | 08 Feb 2024 |
| Machine Age    | mls | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Age        | mls | Client Info |           | <b>0</b>           | 0           | 0           |
| Filter Age     | mls | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR

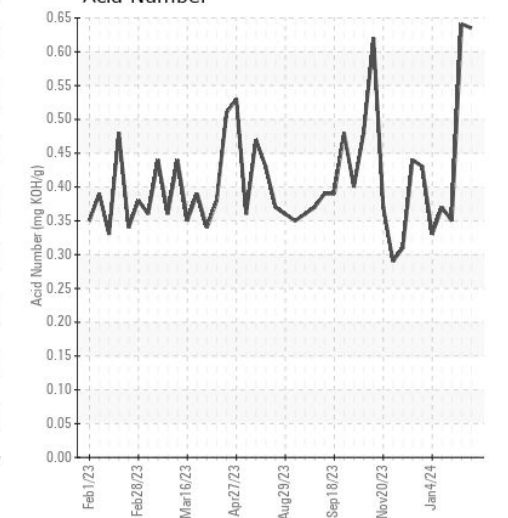
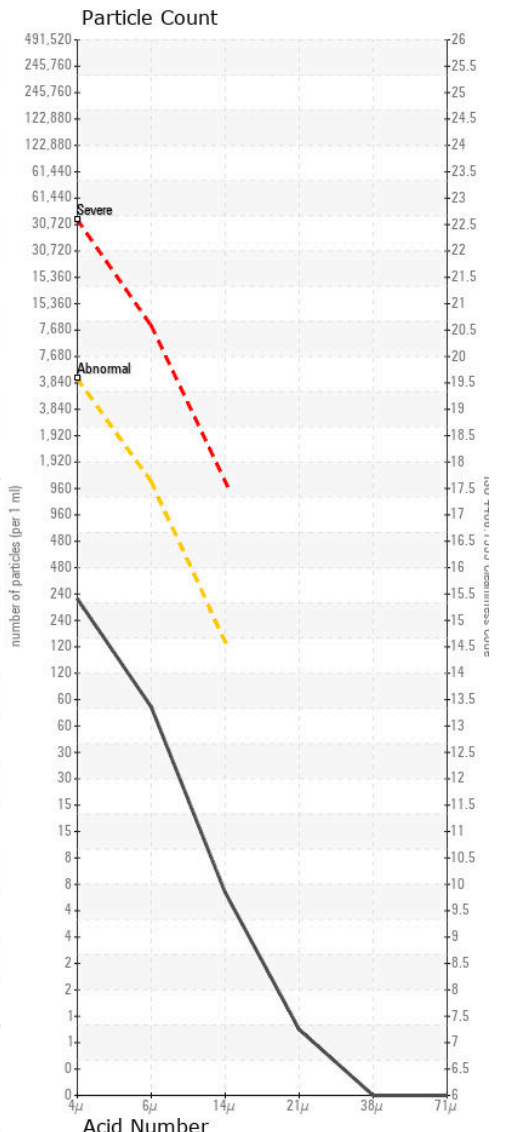
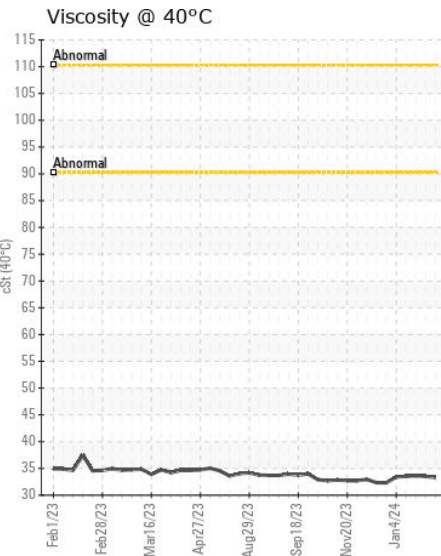
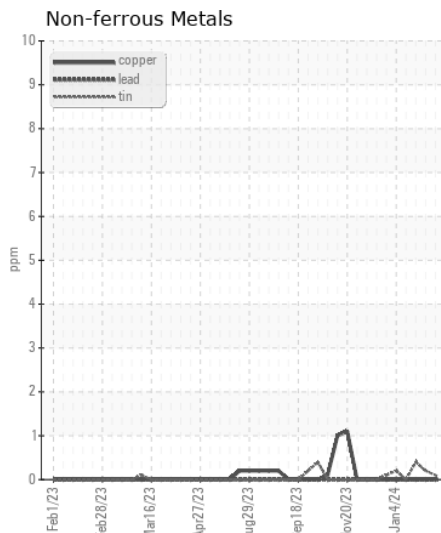
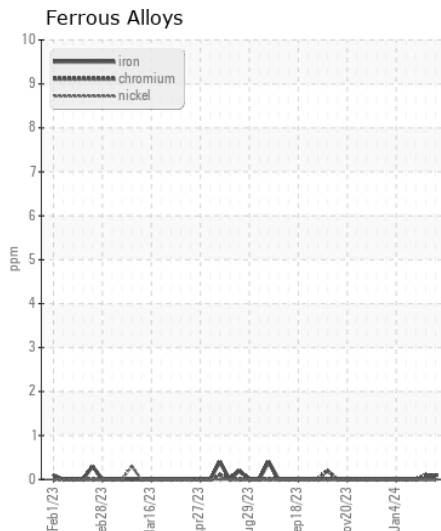
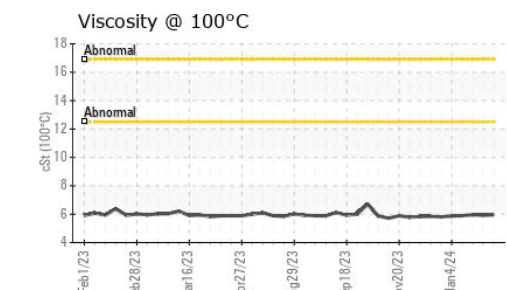
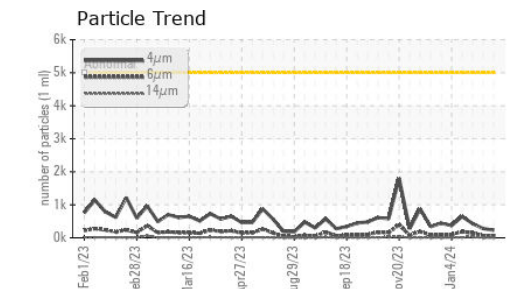
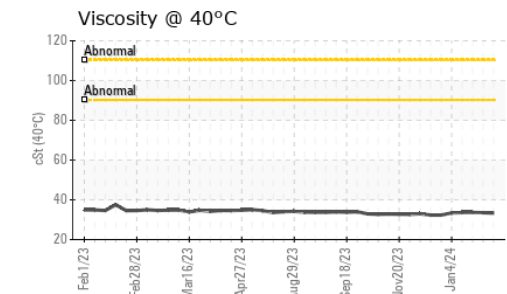
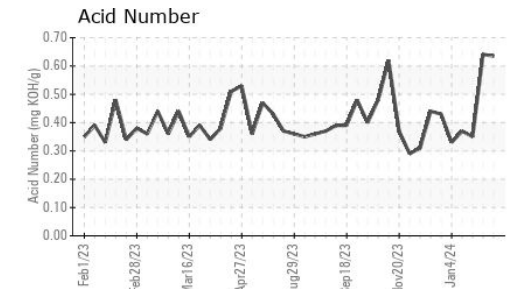
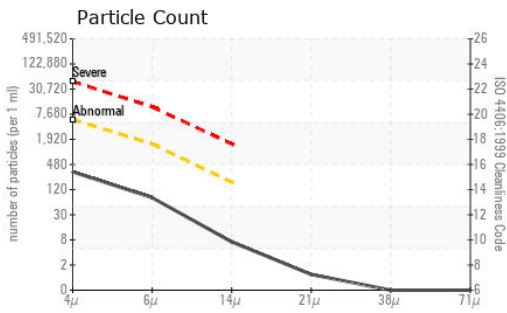
|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| Chromium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0  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

## CONTAMINATION

|                  |        |              |           |                 |          |          |
|------------------|--------|--------------|-----------|-----------------|----------|----------|
| Silicon          | ppm    | ASTM D5185m  |           | <b>&lt;1</b>    | <1       | 0        |
| Potassium        | ppm    | ASTM D5185m  | >20       | <b>0</b>        | 0        | 2        |
| Water            |        | WC Method    |           | <b>NEG</b>      | NEG      | NEG      |
| Particles >4µm   |        | ASTM D7647   | >5000     | <b>281</b>      | 231      | 429      |
| Particles >6µm   |        | ASTM D7647   | >1300     | <b>68</b>       | 62       | 148      |
| Particles >14µm  |        | ASTM D7647   | >160      | <b>6</b>        | 6        | 23       |
| Particles >21µm  |        | ASTM D7647   | >40       | <b>1</b>        | 1        | 4        |
| Particles >38µm  |        | ASTM D7647   | >10       | <b>0</b>        | 0        | 0        |
| Particles >71µm  |        | ASTM D7647   | >3        | <b>0</b>        | 0        | 0        |
| Oil Cleanliness  |        | ISO 4406 (c) | >19/17/14 | <b>15/13/10</b> | 15/13/10 | 16/14/12 |
| Silt             | scalar | *Visual      | NONE      | <b>NONE</b>     | NONE     | NONE     |
| Debris           | scalar | *Visual      | NONE      | <b>NONE</b>     | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual      | NONE      | <b>NONE</b>     | NONE     | NONE     |
| Appearance       | scalar | *Visual      | NORML     | <b>NORML</b>    | NORML    | NORML    |
| Odor             | scalar | *Visual      | NORML     | <b>NORML</b>    | NORML    | NORML    |
| Emulsified Water | scalar | *Visual      |           | <b>NEG</b>      | NEG      | NEG      |

## FLUID CONDITION

|                      |          |             |  |              |       |       |
|----------------------|----------|-------------|--|--------------|-------|-------|
| Sodium               | ppm      | ASTM D5185m |  | <b>2</b>     | 2     | 2     |
| Boron                | ppm      | ASTM D5185m |  | <b>0</b>     | 0     | 0     |
| Barium               | ppm      | ASTM D5185m |  | <b>0</b>     | 0     | 0     |
| Molybdenum           | ppm      | ASTM D5185m |  | <b>0</b>     | 0     | 0     |
| Manganese            | ppm      | ASTM D5185m |  | <b>0</b>     | 0     | 0     |
| Magnesium            | ppm      | ASTM D5185m |  | <b>97</b>    | 104   | 97    |
| Calcium              | ppm      | ASTM D5185m |  | <b>79</b>    | 77    | 72    |
| Phosphorus           | ppm      | ASTM D5185m |  | <b>321</b>   | 342   | 327   |
| Zinc                 | ppm      | ASTM D5185m |  | <b>404</b>   | 425   | 419   |
| Sulfur               | ppm      | ASTM D5185m |  | <b>4698</b>  | 4910  | 4398  |
| Acid Number (AN)     | mg KOH/g | ASTM D8045  |  | <b>0.635</b> | 0.641 | 0.35  |
| Visc @ 40°C          | cSt      | ASTM D445   |  | <b>33.32</b> | 33.5  | 33.64 |
| Visc @ 100°C         | cSt      | ASTM D445   |  | <b>5.95</b>  | 5.92  | 5.96  |
| Viscosity Index (VI) | Scale    | ASTM D2270  |  | <b>124</b>   | 121   | 122   |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0031228  
**Lab Number** : 06103972  
**Unique Number** : 10902202  
**Test Package** : MOB 2 ( Additional Tests: FT-IR, ICP-NewOil, KV100, PrtCount, VI )

**THE UNITED OIL COMPANY - OPERATIONS**  
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 BALTIMORE, MD  
 US 21224  
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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)

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