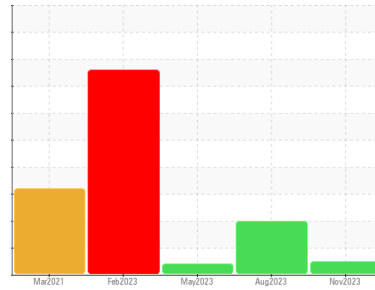




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**TM 7**  
Machine Id  
**TM 7 MACHINE LUBE**  
Component  
**Lube System**  
Fluid  
**ISO 220 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

### 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 |             | <b>RP0034386</b>   | RP0034361   | RP0034929   |
| Sample Date   | Client Info |             | <b>01 Nov 2023</b> | 28 Aug 2023 | 31 May 2023 |
| Machine Age   | hrs         | Client Info | <b>0</b>           | 0           | 0           |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 0           | 0           |
| Oil Changed   | Client Info |             | <b>N/A</b>         | N/A         | N/A         |
| Sample Status |             |             | <b>NORMAL</b>      | ABNORMAL    | ABNORMAL    |

## WEAR METALS

|          | method     | limit/base      | current      | history1 | history2 |
|----------|------------|-----------------|--------------|----------|----------|
| PQ       | ASTM D8184 |                 | <b>32</b>    | 12       | 12       |
| Iron     | ppm        | ASTM D5185m >20 | <b>7</b>     | 22       | 3        |
| Chromium | ppm        | ASTM D5185m >20 | <b>&lt;1</b> | 0        | <1       |
| Nickel   | ppm        | ASTM D5185m >20 | <b>0</b>     | 0        | 0        |
| Titanium | ppm        | ASTM D5185m     | <b>0</b>     | <1       | 0        |
| Silver   | ppm        | ASTM D5185m     | <b>0</b>     | 0        | 0        |
| Aluminum | ppm        | ASTM D5185m >20 | <b>&lt;1</b> | 2        | 0        |
| Lead     | ppm        | ASTM D5185m >20 | <b>0</b>     | 0        | 0        |
| Copper   | ppm        | ASTM D5185m >20 | <b>2</b>     | ▲ 40     | <1       |
| Tin      | ppm        | ASTM D5185m >20 | <b>0</b>     | 0        | 0        |
| Vanadium | ppm        | ASTM D5185m     | <b>0</b>     | 0        | 0        |
| Cadmium  | ppm        | ASTM D5185m     | <b>&lt;1</b> | 0        | 0        |

## ADDITIVES

|            | method | limit/base  | current    | history1 | history2 |
|------------|--------|-------------|------------|----------|----------|
| 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>   | 1        | <1       |
| Magnesium  | ppm    | ASTM D5185m | <b>4</b>   | 3        | 4        |
| Calcium    | ppm    | ASTM D5185m | <b>79</b>  | 90       | 90       |
| Phosphorus | ppm    | ASTM D5185m | <b>489</b> | 500      | 434      |
| Zinc       | ppm    | ASTM D5185m | <b>616</b> | 591      | 493      |

## CONTAMINANTS

|           | method | limit/base       | current      | history1 | history2 |
|-----------|--------|------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >15  | <b>5</b>     | 6        | 6        |
| Sodium    | ppm    | ASTM D5185m      | <b>18</b>    | 33       | 32       |
| Potassium | ppm    | ASTM D5185m >20  | <b>2</b>     | 2        | 2        |
| Water     | %      | ASTM D6304 >0.05 | <b>0.006</b> | 0.007    | 0.023    |
| ppm Water | ppm    | ASTM D6304 >500  | <b>67.4</b>  | 78.9     | 237.9    |

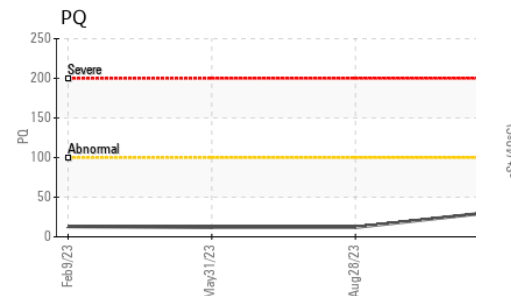
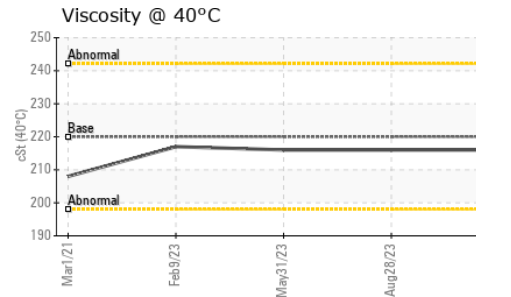
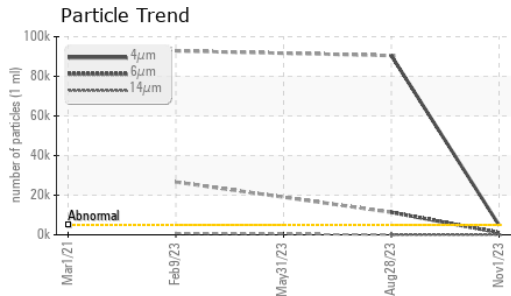
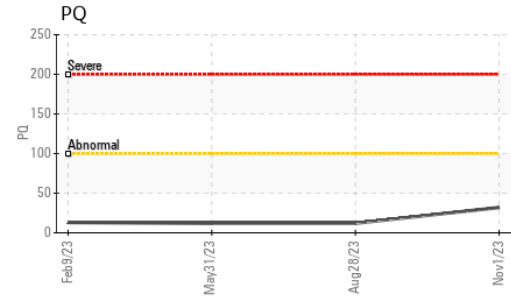
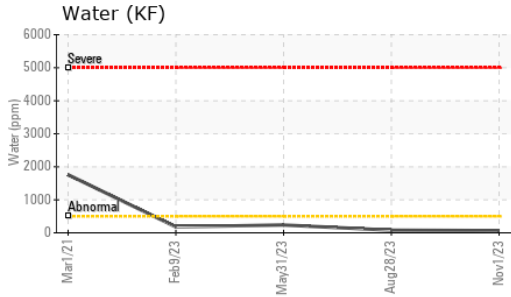
## FLUID CLEANLINESS

|                 | method       | limit/base | current         | history1   | history2 |
|-----------------|--------------|------------|-----------------|------------|----------|
| Particles >4µm  | ASTM D7647   | >5000      | <b>4855</b>     | ▲ 90466    | ---      |
| Particles >6µm  | ASTM D7647   | >1300      | <b>1116</b>     | ▲ 11379    | ---      |
| Particles >14µm | ASTM D7647   | >160       | <b>65</b>       | 49         | ---      |
| Particles >21µm | ASTM D7647   | >40        | <b>17</b>       | 8          | ---      |
| Particles >38µm | ASTM D7647   | >10        | <b>0</b>        | 2          | ---      |
| Particles >71µm | ASTM D7647   | >3         | <b>0</b>        | 0          | ---      |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14  | <b>19/17/13</b> | ▲ 24/21/13 | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base | current     | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | <b>0.53</b> | 0.49     | 0.48     |

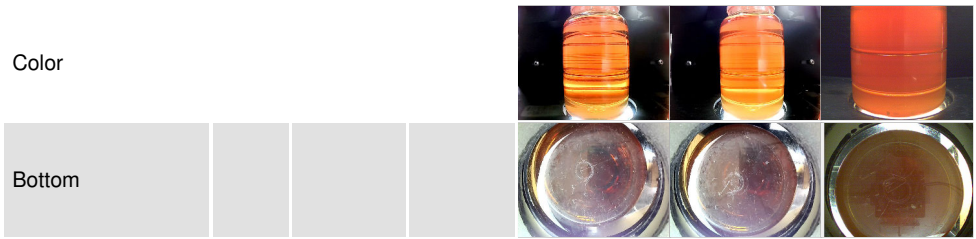
# OIL ANALYSIS REPORT



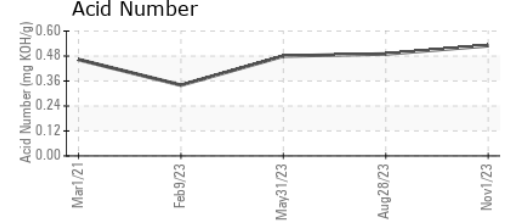
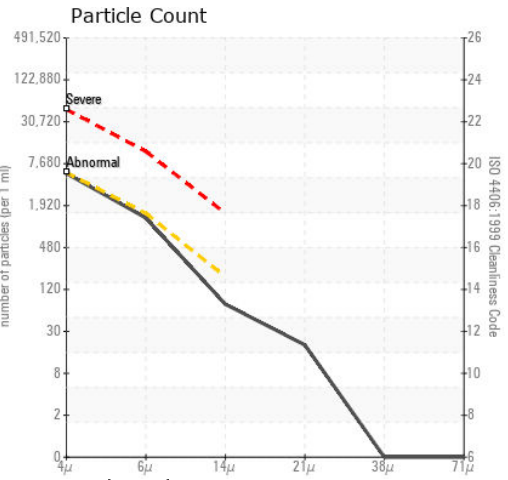
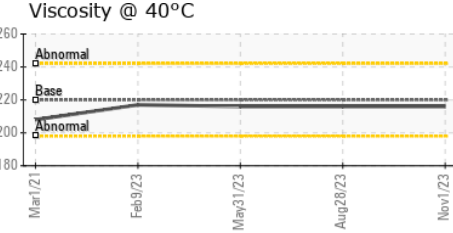
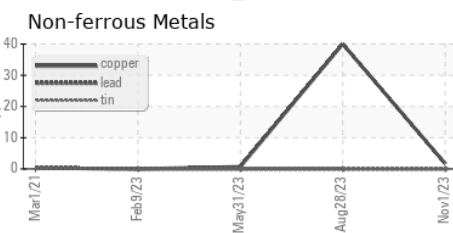
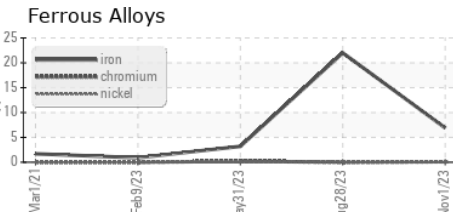
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | LIGHT    |
| Debris           | scalar | *Visual    | NONE    | LIGHT    | ▲ MODER  |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual    | >0.05   | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base    | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445 220 | 216     | 216      | 216      |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0034386 **Received** : 02 Nov 2023  
**Lab Number** : 05997378 **Diagnosed** : 07 Nov 2023  
**Unique Number** : 10725738 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: PQ, PrtCount )

**Kimberly-Clark - Mobile - TM 7**  
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 MOBILE, AL  
 US 36610  
 Contact: BRAD SNOW  
 brad.snow@kcc.com  
 T:  
 F: (251)452-6335

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)