



**PERFORMANCE  
UNDER  
PRESSURE**

**OIL ANALYSIS REPORT**

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

Area  
**TM 11**  
Machine Id  
**TM 11 AIR SIDE MACHINE CHEST**  
Component  
**Gearbox**  
Fluid  
**ROYAL PURPLE SYNERGY 90/220 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>RP0037974</b>   | RP0038096   | RP115061    |
| Sample Date    |     | Client Info |           | <b>30 Jan 2024</b> | 29 Jan 2024 | 23 Sep 2011 |
| Machine Age    | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Filter Age     | hrs | 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>ATTENTION</b>   | SEVERE      | NORMAL      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |       |
|--------------|--------|-------------|------|--------------|------|-------|
| PQ           |        | ASTM D8184  |      | <b>14</b>    | 38   | ---   |
| Iron         | ppm    | ASTM D5185m | >200 | <b>74</b>    | 98   | 2     |
| Chromium     | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | <1   | 0     |
| Nickel       | ppm    | ASTM D5185m | >15  | <b>0</b>     | 0    | 0     |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0     |
| Silver       | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0     |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>0</b>     | 2    | <1    |
| Lead         | ppm    | ASTM D5185m | >100 | <b>0</b>     | <1   | 0     |
| Copper       | ppm    | ASTM D5185m | >200 | <b>&lt;1</b> | <1   | <1    |
| Tin          | ppm    | ASTM D5185m | >25  | <b>&lt;1</b> | <1   | 0     |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0     |
| White Metal  | scalar | *Visual     | NONE | <b>LIGHT</b> | NONE | LIGHT |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE  |

**CONTAMINATION**

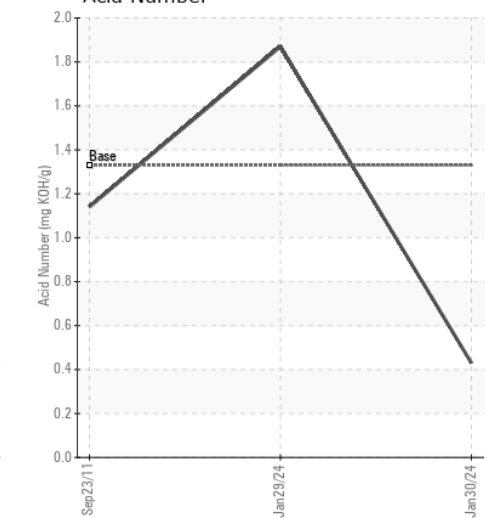
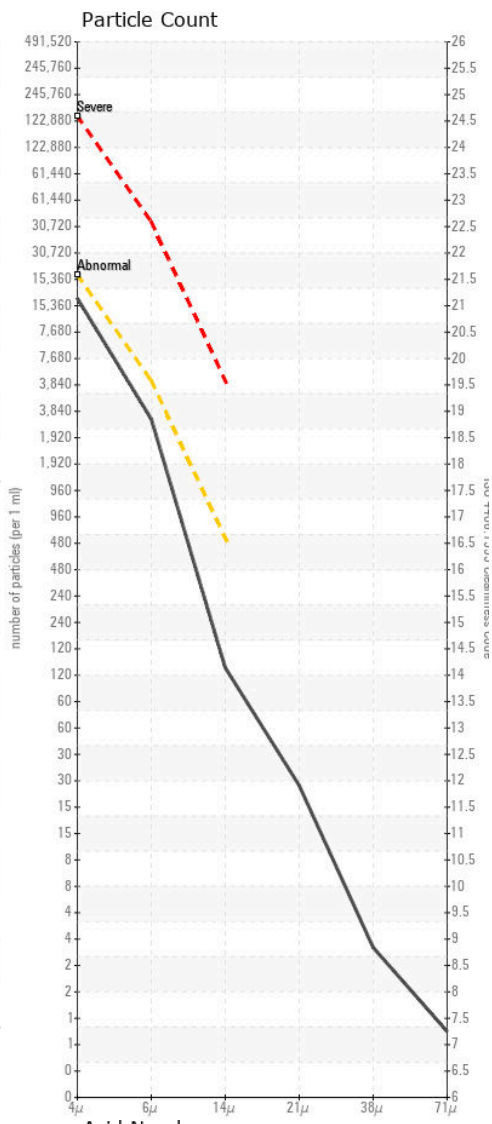
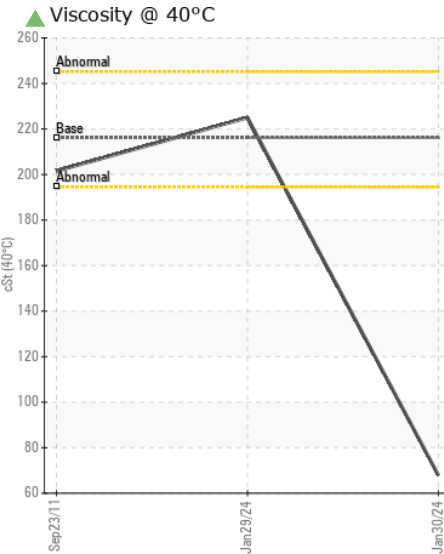
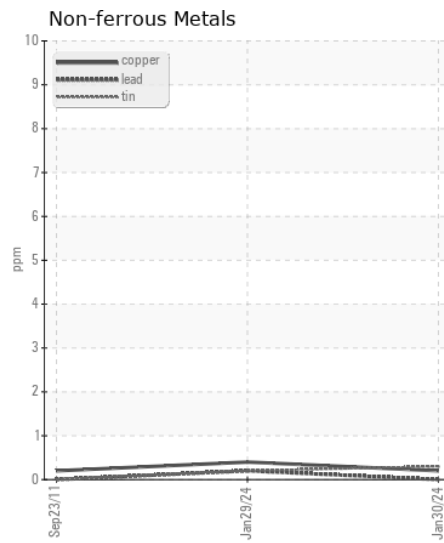
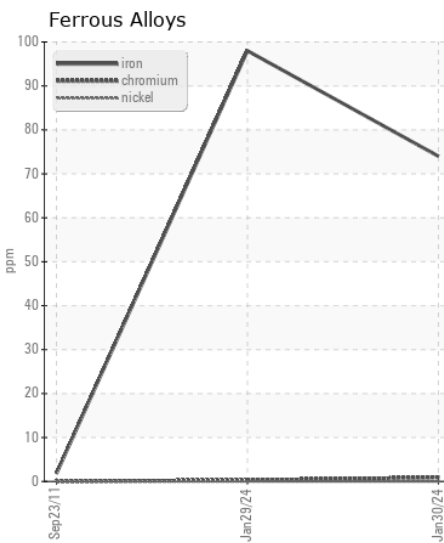
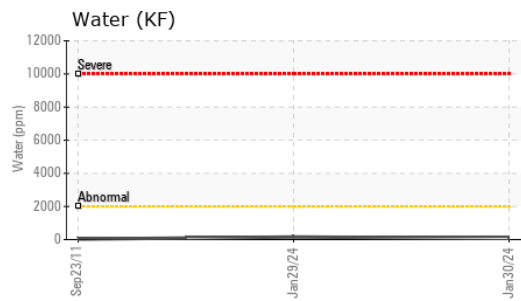
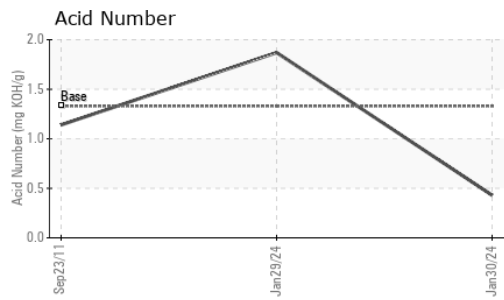
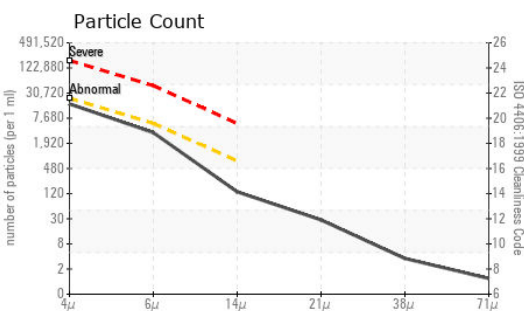
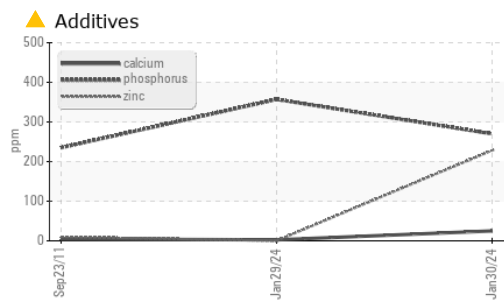
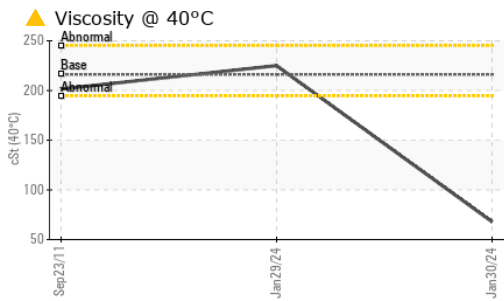
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

|                  |        |              |           |                 |          |          |
|------------------|--------|--------------|-----------|-----------------|----------|----------|
| Silicon          | ppm    | ASTM D5185m  | >50       | <b>2</b>        | 2        | <1       |
| Potassium        | ppm    | ASTM D5185m  | >20       | <b>0</b>        | 3        | 0        |
| Water            | %      | ASTM D6304   | >0.2      | <b>0.007</b>    | 0.015    | 0.003    |
| ppm Water        | ppm    | ASTM D6304   | >2000     | <b>79</b>       | 158      | 30       |
| Particles >4µm   |        | ASTM D7647   | >20000    | <b>14709</b>    | 111914   | 1205     |
| Particles >6µm   |        | ASTM D7647   | >5000     | <b>3028</b>     | 24362    | 656      |
| Particles >14µm  |        | ASTM D7647   | >640      | <b>117</b>      | 368      | 111      |
| Particles >21µm  |        | ASTM D7647   | >160      | <b>25</b>       | 56       | 37       |
| Particles >38µm  |        | ASTM D7647   | >40       | <b>3</b>        | 1        | 5        |
| Particles >71µm  |        | ASTM D7647   | >10       | <b>1</b>        | 0        | 0        |
| Oil Cleanliness  |        | ISO 4406 (c) | >21/19/16 | <b>21/19/14</b> | 24/22/16 | 17/17/14 |
| 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      | >0.2      | <b>NEG</b>      | NEG      | NEG      |

**FLUID CONDITION**

The oil viscosity is lower than normal. This plus the additive levels indicates the addition of a different brand, or type of oil. Confirm oil type. The AN level is acceptable for this fluid.

|                  |          |             |       |               |      |       |
|------------------|----------|-------------|-------|---------------|------|-------|
| Sodium           | ppm      | ASTM D5185m |       | <b>4</b>      | 0    | 0     |
| Boron            | ppm      | ASTM D5185m |       | <b>2</b>      | 37   | <1    |
| Barium           | ppm      | ASTM D5185m |       | <b>20</b>     | 0    | 1     |
| Molybdenum       | ppm      | ASTM D5185m |       | <b>&lt;1</b>  | <1   | 0     |
| Manganese        | ppm      | ASTM D5185m |       | <b>2</b>      | <1   | 0     |
| Magnesium        | ppm      | ASTM D5185m |       | <b>▲ 34</b>   | 0    | 4     |
| Calcium          | ppm      | ASTM D5185m |       | <b>▲ 25</b>   | 2    | 4     |
| Phosphorus       | ppm      | ASTM D5185m | 370   | <b>270</b>    | 357  | 235   |
| Zinc             | ppm      | ASTM D5185m |       | <b>▲ 228</b>  | 0    | 10    |
| Acid Number (AN) | mg KOH/g | ASTM D8045  | 1.33  | <b>0.43</b>   | 1.87 | 1.14  |
| Visc @ 40°C      | cSt      | ASTM D445   | 216.1 | <b>▲ 67.9</b> | 225  | 201.5 |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RP0037974 **Received** : 31 Jan 2024  
**Lab Number** : 06075761 **Diagnosed** : 02 Feb 2024  
**Unique Number** : 10857852 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: PQ, PrtCount )

**Kimberly-Clark - Mobile - TM 11**  
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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)