



# OIL ANALYSIS REPORT

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

Area  
**Co-Gen - Utilities**  
 Machine Id  
**27-2310 - MILL AC C**  
 Component  
**Air Compressor**  
 Fluid  
**TES SYN 295 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>PE0001473</b>   | PE0001449   | PE0000256   |
| Sample Date    |     | Client Info |           | <b>06 Feb 2024</b> | 14 Nov 2023 | 21 Mar 2023 |
| 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>NORMAL</b>      | NORMAL      | ATTENTION   |

## WEAR

All component wear rates are normal.

| PQ           | UOM    | Method      | Limit/Abn | Current     | History1 | History2 |
|--------------|--------|-------------|-----------|-------------|----------|----------|
| PQ           |        | ASTM D8184  |           | <b>13</b>   | 11       | 13       |
| Iron         | ppm    | ASTM D5185m | >50       | <b>2</b>    | 3        | 2        |
| Chromium     | ppm    | ASTM D5185m | >4        | <b>0</b>    | 0        | 0        |
| Nickel       | ppm    | ASTM D5185m | >4        | <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 | >10       | <b>0</b>    | <1       | <1       |
| Lead         | ppm    | ASTM D5185m | >20       | <b>0</b>    | 0        | 0        |
| Copper       | ppm    | ASTM D5185m | >40       | <b>14</b>   | 21       | 2        |
| Tin          | ppm    | ASTM D5185m | >5        | <b>0</b>    | <1       | 0        |
| Vanadium     | ppm    | ASTM D5185m |           | <b>0</b>    | <1       | 0        |
| White Metal  | scalar | *Visual     | NONE      | <b>NONE</b> | LIGHT    | NONE     |
| Yellow Metal | scalar | *Visual     | NONE      | <b>NONE</b> | NONE     | NONE     |

## CONTAMINATION

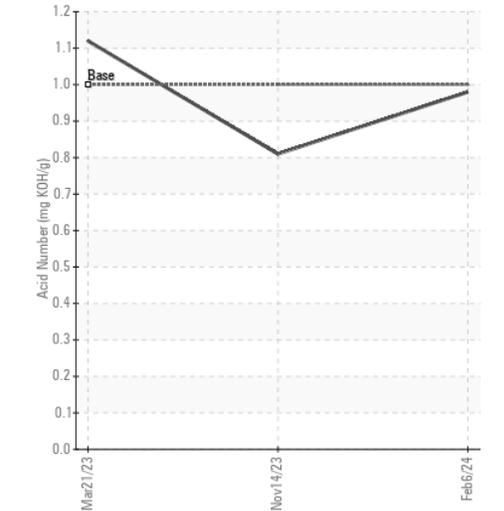
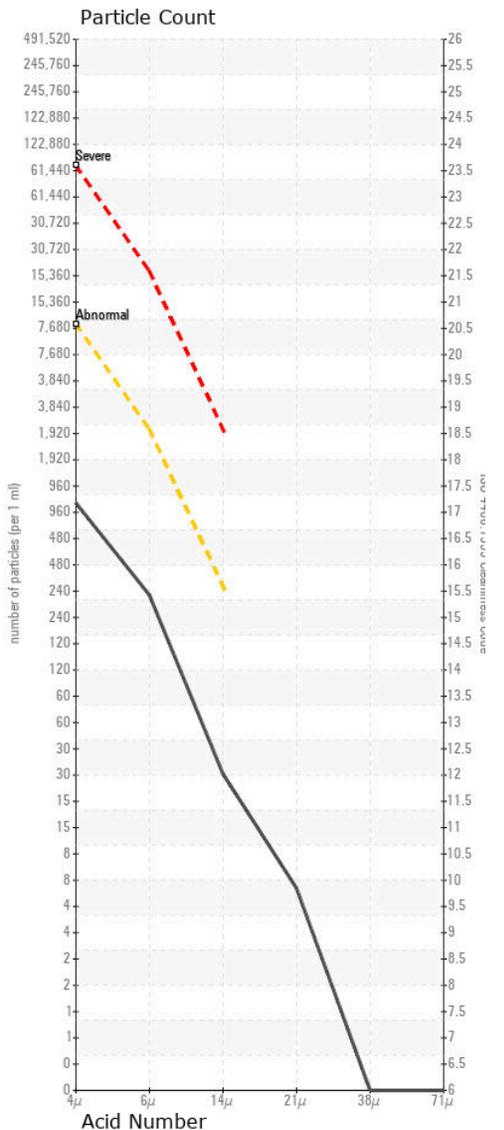
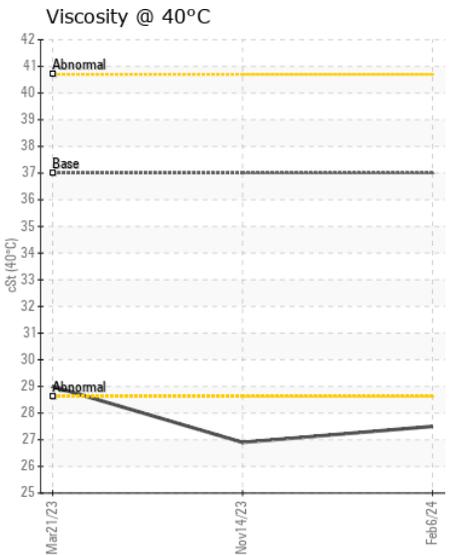
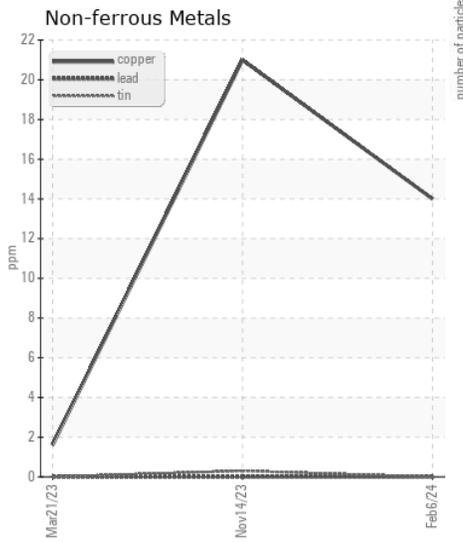
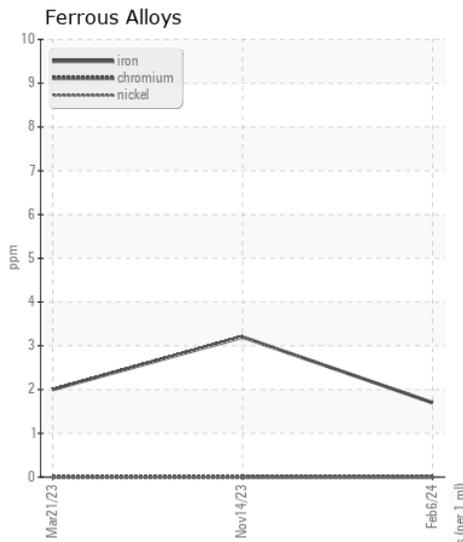
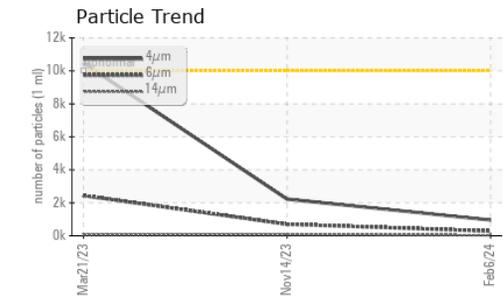
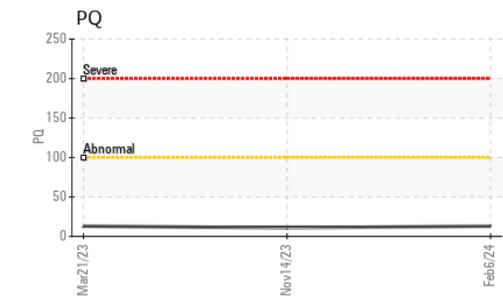
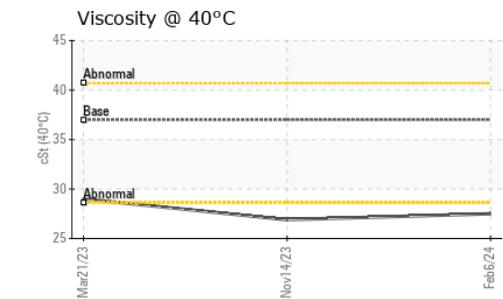
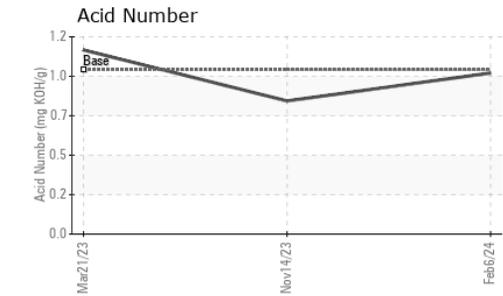
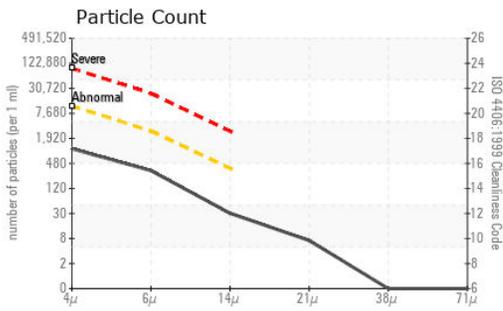
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

|                  |        |              |           |                 |          |            |
|------------------|--------|--------------|-----------|-----------------|----------|------------|
| Silicon          | ppm    | ASTM D5185m  | >25       | <b>1</b>        | 2        | 1          |
| Potassium        | ppm    | ASTM D5185m  | >20       | <b>3</b>        | 4        | 0          |
| Water            | %      | ASTM D6304   | >0.6      | <b>NEG</b>      | NEG      | NEG        |
| Particles >4µm   |        | ASTM D7647   | >10000    | <b>952</b>      | 2224     | ▲ 10468    |
| Particles >6µm   |        | ASTM D7647   | >2500     | <b>283</b>      | 700      | 2439       |
| Particles >14µm  |        | ASTM D7647   | >320      | <b>27</b>       | 78       | 67         |
| Particles >21µm  |        | ASTM D7647   | >80       | <b>6</b>        | 21       | 8          |
| Particles >38µm  |        | ASTM D7647   | >20       | <b>0</b>        | 2        | 0          |
| Particles >71µm  |        | ASTM D7647   | >4        | <b>0</b>        | 1        | 0          |
| Oil Cleanliness  |        | ISO 4406 (c) | >20/18/15 | <b>17/15/12</b> | 18/17/13 | ▲ 21/18/13 |
| 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      | >0.6      | <b>NEG</b>      | NEG      | NEG        |

## FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

|                  |          |             |      |              |      |      |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium           | ppm      | ASTM D5185m |      | <b>28</b>    | 34   | 28   |
| Boron            | ppm      | ASTM D5185m | 85   | <b>0</b>     | 0    | 0    |
| Barium           | ppm      | ASTM D5185m | 0    | <b>8</b>     | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 0    | <b>0</b>     | 0    | 0    |
| Manganese        | ppm      | ASTM D5185m | 0    | <b>&lt;1</b> | <1   | 0    |
| Magnesium        | ppm      | ASTM D5185m | 1    | <b>9</b>     | 0    | 0    |
| Calcium          | ppm      | ASTM D5185m | 100  | <b>115</b>   | 105  | 81   |
| Phosphorus       | ppm      | ASTM D5185m | 200  | <b>222</b>   | 217  | 206  |
| Zinc             | ppm      | ASTM D5185m | 0    | <b>25</b>    | 20   | 68   |
| Sulfur           | ppm      | ASTM D5185m | 1500 | <b>360</b>   | 253  | 472  |
| Acid Number (AN) | mg KOH/g | ASTM D8045  | 1.0  | <b>0.98</b>  | 0.81 | 1.12 |
| Visc @ 40°C      | cSt      | ASTM D445   | 37.0 | <b>27.5</b>  | 26.9 | 29.0 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PE0001473  
**Lab Number** : 06085348  
**Unique Number** : 10872793  
**Test Package** : PLANT ( Additional Tests: ICP, KF, KV40, PQ, PrtCount, SCREEN )

**Received** : 09 Feb 2024  
**Tested** : 12 Feb 2024  
**Diagnosed** : 12 Feb 2024 - Jonathan Hester

**MCKINLEY PAPER COMPANY**  
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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)