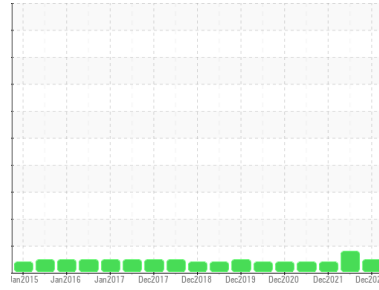




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**COMPOUND**  
 Machine Id  
**MT F - AGITATOR**

Component  
**Gearbox**  
 Fluid  
**SHELL OMALA S2 G 220 (19 GAL)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of particulates present 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>WC0748718</b>   | WC0690336   | WC0639965   |
| Sample Date        | Client Info |             |            | <b>08 Dec 2022</b> | 10 Jun 2022 | 14 Dec 2021 |
| Machine Age        | mths        | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Age            | mths        | Client Info |            | <b>0</b>           | 0           | 0           |
| Oil Changed        | Client Info |             |            | <b>N/A</b>         | N/A         | N/A         |
| Sample Status      |             |             |            | <b>NORMAL</b>      | ATTENTION   | ATTENTION   |

| WEAR METALS |     | method      | limit/base | current      | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185m | >200       | <b>2</b>     | 2        | 2        |
| Chromium    | ppm | ASTM D5185m | >15        | <b>0</b>     | 0        | 0        |
| Nickel      | ppm | ASTM D5185m | >15        | <b>0</b>     | 0        | <1       |
| Titanium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Silver      | ppm | ASTM D5185m |            | <b>0</b>     | 0        | <1       |
| Aluminum    | ppm | ASTM D5185m | >25        | <b>0</b>     | <1       | 1        |
| Lead        | ppm | ASTM D5185m | >100       | <b>0</b>     | 0        | 0        |
| Copper      | ppm | ASTM D5185m | >200       | <b>&lt;1</b> | <1       | <1       |
| Tin         | ppm | ASTM D5185m | >25        | <b>0</b>     | <1       | 0        |
| Antimony    | ppm | ASTM D5185m | >5         | <b>---</b>   | ---      | 0        |
| Vanadium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |
| Cadmium     | ppm | ASTM D5185m |            | <b>0</b>     | 0        | 0        |

| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m | 4.4        | <b>18</b>    | 22       | 18       |
| Barium     | ppm | ASTM D5185m | 0.0        | <b>0</b>     | <1       | 0        |
| Molybdenum | ppm | ASTM D5185m | 0          | <b>3</b>     | 3        | 3        |
| Manganese  | ppm | ASTM D5185m |            | <b>0</b>     | 0        | <1       |
| Magnesium  | ppm | ASTM D5185m | 0          | <b>&lt;1</b> | 0        | 0        |
| Calcium    | ppm | ASTM D5185m | 0          | <b>60</b>    | 58       | 62       |
| Phosphorus | ppm | ASTM D5185m | 215        | <b>244</b>   | 246      | 255      |
| Zinc       | ppm | ASTM D5185m | 0          | <b>28</b>    | 28       | 15       |
| Sulfur     | ppm | ASTM D5185m | 7039       | <b>15111</b> | 11489    | 10786    |

| CONTAMINANTS |     | method      | limit/base | current  | history1 | history2 |
|--------------|-----|-------------|------------|----------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >50        | <b>2</b> | 1        | 2        |
| Sodium       | ppm | ASTM D5185m |            | <b>0</b> | 2        | <1       |
| Potassium    | ppm | ASTM D5185m | >20        | <b>1</b> | 0        | <1       |

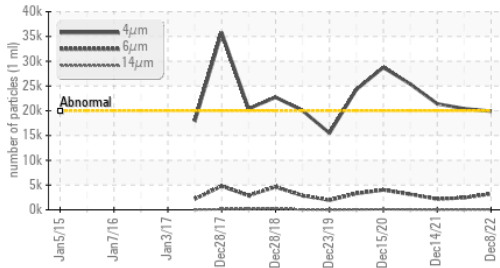
| FLUID CLEANLINESS |  | method       | limit/base | current         | history1   | history2   |
|-------------------|--|--------------|------------|-----------------|------------|------------|
| Particles >4µm    |  | ASTM D7647   | >20000     | <b>19910</b>    | ▲ 20422    | ▲ 21410    |
| Particles >6µm    |  | ASTM D7647   | >5000      | <b>3209</b>     | 2432       | 2157       |
| Particles >14µm   |  | ASTM D7647   | >640       | <b>70</b>       | 58         | 41         |
| Particles >21µm   |  | ASTM D7647   | >160       | <b>12</b>       | 13         | 10         |
| Particles >38µm   |  | ASTM D7647   | >40        | <b>1</b>        | 1          | 0          |
| Particles >71µm   |  | ASTM D7647   | >10        | <b>0</b>        | 0          | 0          |
| Oil Cleanliness   |  | ISO 4406 (c) | >21/19/16  | <b>21/19/13</b> | ▲ 22/18/13 | ▲ 22/18/13 |

| FLUID DEGRADATION |          | method     | limit/base | current     | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN)  | mg KOH/g | ASTM D8045 |            | <b>0.37</b> | 0.38     | 0.357    |

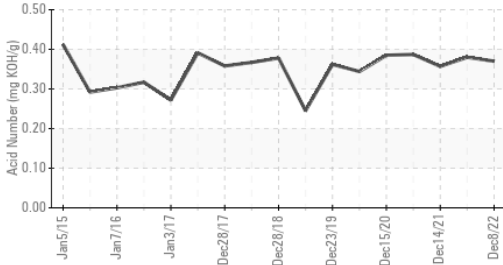


# OIL ANALYSIS REPORT

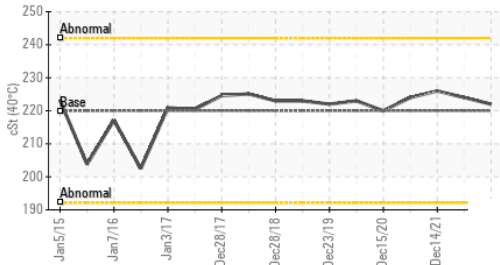
**Particle Trend**



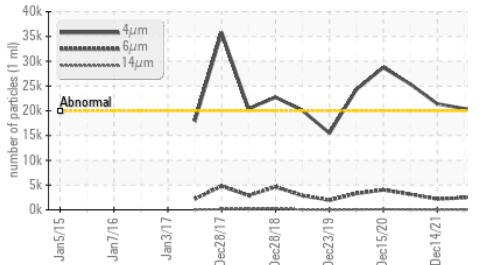
**Acid Number**



**Viscosity @ 40°C**



**Particle Trend**

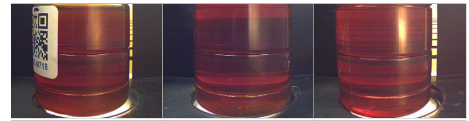


| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual    | >0.2    | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

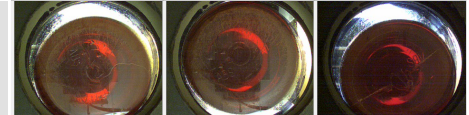
| FLUID PROPERTIES | method | limit/base    | current    | history1 | history2 |
|------------------|--------|---------------|------------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445 220 | <b>222</b> | 224      | 226      |

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

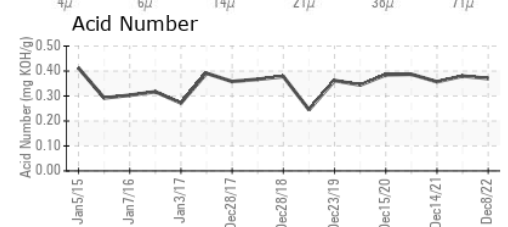
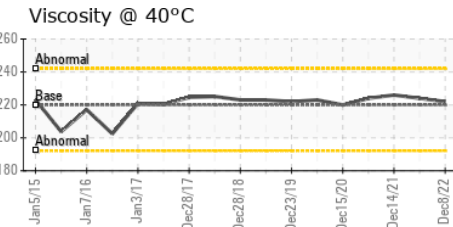
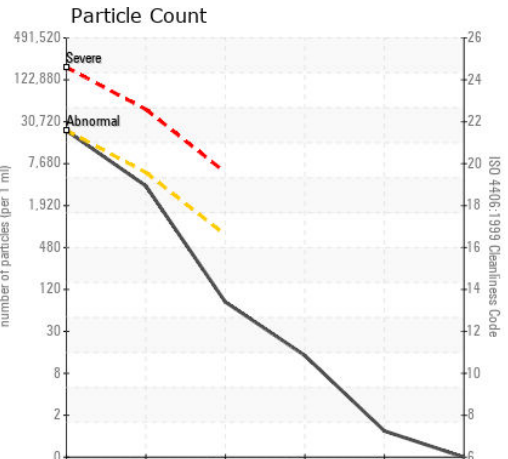
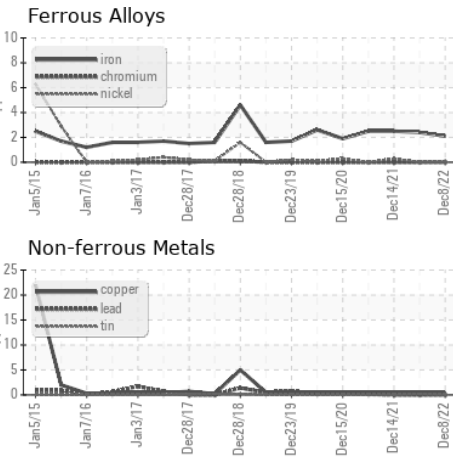
**Color**



**Bottom**



## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0748718 **Received** : 13 Dec 2022  
**Lab Number** : 05716370 **Diagnosed** : 14 Dec 2022  
**Unique Number** : 10255946 **Diagnostician** : Angela Borella  
**Test Package** : IND 2 ( Additional Tests: PrtCount )

**LUBRIZOL ADVANCED MATERIALS INC**  
 207 TELEGRAPH DR  
 GASTONIA, NC  
 US 28056  
 Contact: TIMOTHY DAVIS  
 timothy.davis@lubrizol.com  
 T: (704)915-4131  
 F: x:

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)