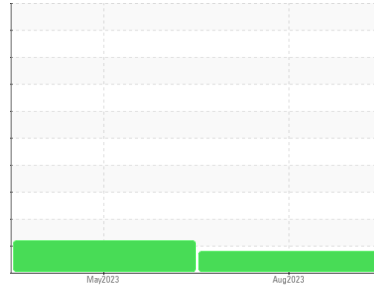




# PROBLEM SUMMARY

## Sample Rating Trend



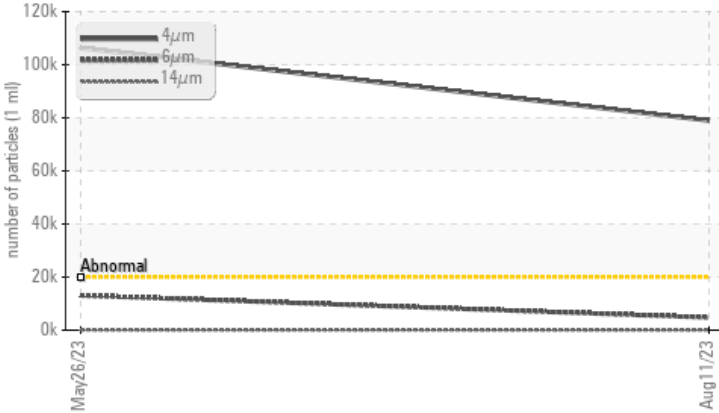
ISO



Area  
**Paper Machine**  
 Machine Id  
**Vacuum Pump #9 Gearbox**  
 Component  
**Gearbox**  
 Fluid  
**MOBIL MOBILGEAR SHC 220 (35 GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Particle Trend



## RECOMMENDATION

No corrective action is recommended at this time.  
 Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status   |              |           | <b>ABNORMAL</b>   | ABNORMAL   | --- |
|-----------------|--------------|-----------|-------------------|------------|-----|
| Particles >4µm  | ASTM D7647   | >20000    | ▲ <b>78984</b>    | ▲ 106310   | --- |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | ▲ <b>23/19/12</b> | ▲ 24/21/13 | --- |

Customer Id: CASASH  
 Sample No.: WC0776540  
 Lab Number: 05927233  
 Test Package: PLANT



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

To change component or sample information:  
 Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 26 May 2023 Diag: Wes Davis

ISO



We recommend you service the filters on this component. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

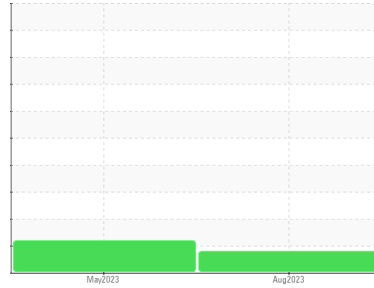
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area  
**Paper Machine**  
 Machine Id  
**Vacuum Pump #9 Gearbox**  
 Component  
**Gearbox**  
 Fluid  
**MOBIL MOBILGEAR SHC 220 (35 GAL)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of silt (particulates < 14 microns in size) 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>WC0776540</b>   | WC0776635   | ---      |
| Sample Date   | Client Info |             | <b>11 Aug 2023</b> | 26 May 2023 | ---      |
| Machine Age   | hrs         | Client Info | <b>0</b>           | 0           | ---      |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 0           | ---      |
| Oil Changed   | Client Info |             | <b>N/A</b>         | N/A         | ---      |
| Sample Status |             |             | <b>ABNORMAL</b>    | ABNORMAL    | ---      |

## WEAR METALS

|          | method | limit/base  | current | history1     | history2 |     |
|----------|--------|-------------|---------|--------------|----------|-----|
| Iron     | ppm    | ASTM D5185m | >200    | <b>25</b>    | 20       | --- |
| Chromium | ppm    | ASTM D5185m | >15     | <b>&lt;1</b> | <1       | --- |
| Nickel   | ppm    | ASTM D5185m | >15     | <b>0</b>     | 0        | --- |
| Titanium | ppm    | ASTM D5185m |         | <b>&lt;1</b> | <1       | --- |
| Silver   | ppm    | ASTM D5185m |         | <b>0</b>     | 0        | --- |
| Aluminum | ppm    | ASTM D5185m | >25     | <b>&lt;1</b> | 0        | --- |
| Lead     | ppm    | ASTM D5185m | >100    | <b>&lt;1</b> | 0        | --- |
| Copper   | ppm    | ASTM D5185m | >200    | <b>&lt;1</b> | <1       | --- |
| Tin      | ppm    | ASTM D5185m | >25     | <b>0</b>     | 0        | --- |
| Vanadium | ppm    | ASTM D5185m |         | <b>&lt;1</b> | 0        | --- |
| Cadmium  | ppm    | ASTM D5185m |         | <b>0</b>     | 0        | --- |

## ADDITIVES

|            | method | limit/base  | current | history1     | history2 |     |
|------------|--------|-------------|---------|--------------|----------|-----|
| Boron      | ppm    | ASTM D5185m |         | <b>0</b>     | 0        | --- |
| Barium     | ppm    | ASTM D5185m |         | <b>0</b>     | 0        | --- |
| Molybdenum | ppm    | ASTM D5185m |         | <b>0</b>     | 0        | --- |
| Manganese  | ppm    | ASTM D5185m |         | <b>&lt;1</b> | <1       | --- |
| Magnesium  | ppm    | ASTM D5185m |         | <b>3</b>     | 0        | --- |
| Calcium    | ppm    | ASTM D5185m |         | <b>&lt;1</b> | <1       | --- |
| Phosphorus | ppm    | ASTM D5185m |         | <b>474</b>   | 472      | --- |
| Zinc       | ppm    | ASTM D5185m |         | <b>0</b>     | <1       | --- |
| Sulfur     | ppm    | ASTM D5185m |         | <b>2720</b>  | 2787     | --- |

## CONTAMINANTS

|           | method | limit/base  | current | history1     | history2 |     |
|-----------|--------|-------------|---------|--------------|----------|-----|
| Silicon   | ppm    | ASTM D5185m | >50     | <b>16</b>    | 16       | --- |
| Sodium    | ppm    | ASTM D5185m |         | <b>&lt;1</b> | 0        | --- |
| Potassium | ppm    | ASTM D5185m | >20     | <b>2</b>     | <1       | --- |
| Water     | %      | ASTM D6304  | >0.2    | <b>0.010</b> | 0.010    | --- |
| ppm Water | ppm    | ASTM D6304  | >2000   | <b>102.1</b> | 108.8    | --- |

## FLUID CLEANLINESS

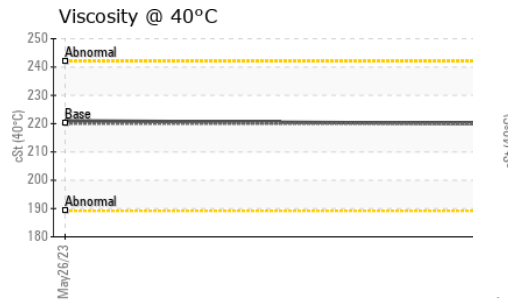
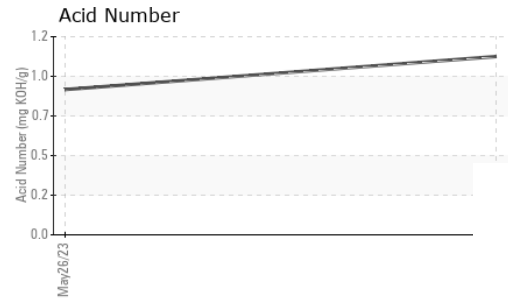
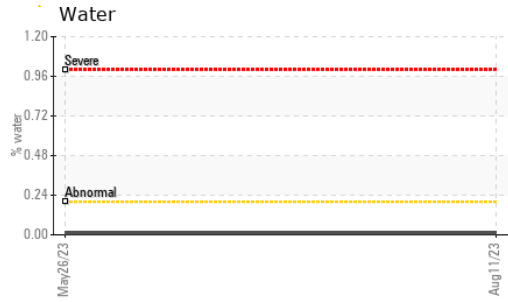
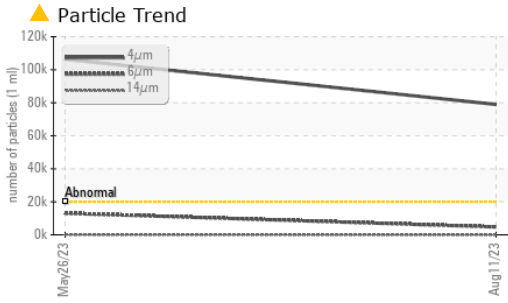
|                 | method       | limit/base | current           | history1   | history2 |
|-----------------|--------------|------------|-------------------|------------|----------|
| Particles >4µm  | ASTM D7647   | >20000     | <b>▲ 78984</b>    | ▲ 106310   | ---      |
| Particles >6µm  | ASTM D7647   | >5000      | <b>4741</b>       | ▲ 13082    | ---      |
| Particles >14µm | ASTM D7647   | >640       | <b>29</b>         | 78         | ---      |
| Particles >21µm | ASTM D7647   | >160       | <b>7</b>          | 10         | ---      |
| Particles >38µm | ASTM D7647   | >40        | <b>0</b>          | 1          | ---      |
| Particles >71µm | ASTM D7647   | >10        | <b>0</b>          | 0          | ---      |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16  | <b>▲ 23/19/12</b> | ▲ 24/21/13 | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base | current | history1    | history2 |     |
|------------------|----------|------------|---------|-------------|----------|-----|
| Acid Number (AN) | mg KOH/g | ASTM D8045 |         | <b>1.08</b> | 0.88     | --- |



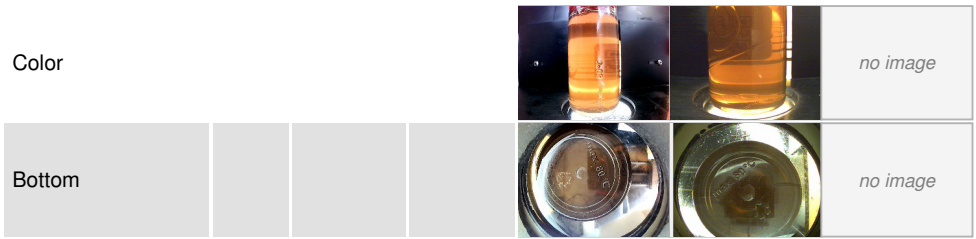
# OIL ANALYSIS REPORT



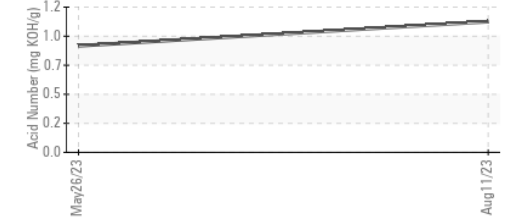
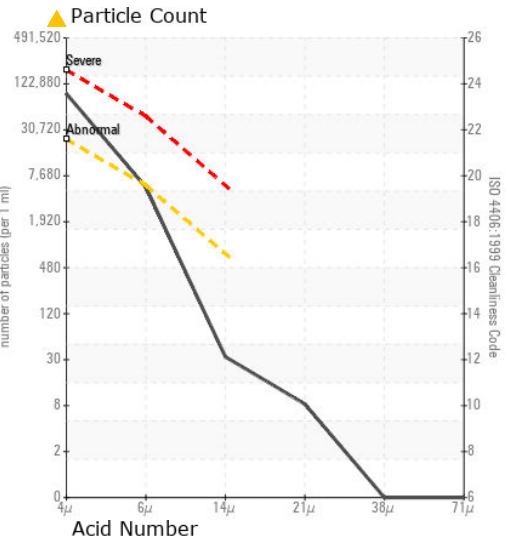
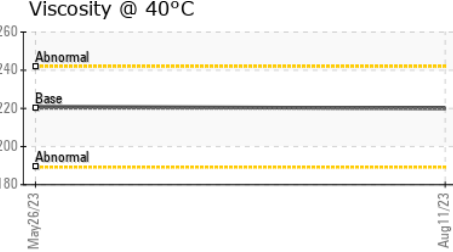
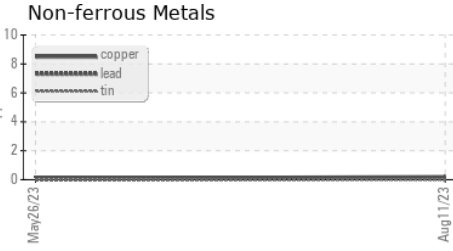
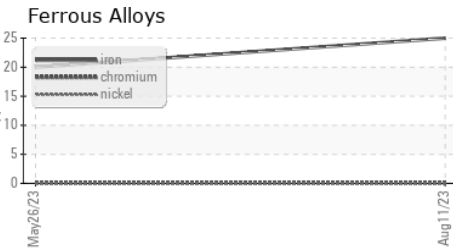
| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | ---      |
|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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C      | cSt    | ASTM D445  | 220     | 221      | ---      |

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



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0776540 **Received** : 17 Aug 2023  
**Lab Number** : 05927233 **Diagnosed** : 18 Aug 2023  
**Unique Number** : 10607180 **Diagnostician** : Don Baldrige  
**Test Package** : PLANT

CASCADES CONTAINERBOARD PACKAGING - BEARPACK PROJECT  
 10026 OLD RIDGE ROAD  
 ASHLAND, VA  
 US 23005  
 Contact: MARC-ANDRE HUBERT  
 marc-andre\_hubert@cascades.com

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)

T:  
F: