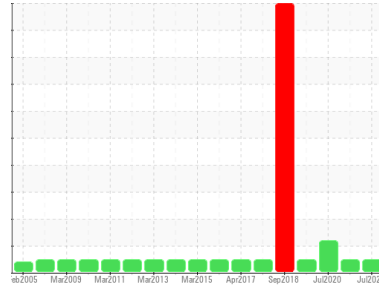




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**CARIBOU FALLS GS**  
 Machine Id  
**FP4G1**  
 Component  
**Thrust Bearing**  
 Fluid  
**ESSO TERESSO ISO 46 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.  
 NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

### Wear

All component wear rates are normal.

### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

### 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>WC0686290</b>   | WC0560603   | WC0475093   |
| Sample Date        | Client Info |             |            | <b>11 Jul 2022</b> | 13 Apr 2021 | 08 Jul 2020 |
| 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>      | NORMAL      | ABNORMAL    |

| CONTAMINATION |           | method | limit/base | current    | history1 | history2 |
|---------------|-----------|--------|------------|------------|----------|----------|
| Water         | WC Method |        | >2         | <b>NEG</b> | NEG      | NEG      |

| WEAR METALS |     | method        | limit/base | current      | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185(m) | >85        | <b>3</b>     | 2        | 0        |
| Chromium    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Nickel      | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | <1       | 0        |
| Titanium    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Silver      | ppm | ASTM D5185(m) |            | <b>0</b>     | <1       | <1       |
| Aluminum    | ppm | ASTM D5185(m) | >40        | <b>&lt;1</b> | <1       | <1       |
| Lead        | ppm | ASTM D5185(m) | >60        | <b>&lt;1</b> | <1       | 0        |
| Copper      | ppm | ASTM D5185(m) | >7         | <b>&lt;1</b> | <1       | <1       |
| Tin         | ppm | ASTM D5185(m) | >40        | <b>&lt;1</b> | <1       | 0        |
| Antimony    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Vanadium    | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Beryllium   | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Cadmium     | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |

| ADDITIVES  |     | method        | limit/base | current      | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185(m) | 0          | <b>0</b>     | <1       | 0        |
| Barium     | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Molybdenum | ppm | ASTM D5185(m) | 0          | <b>0</b>     | 0        | 0        |
| Manganese  | ppm | ASTM D5185(m) |            | <b>0</b>     | 0        | 0        |
| Magnesium  | ppm | ASTM D5185(m) | 0          | <b>0</b>     | <1       | 0        |
| Calcium    | ppm | ASTM D5185(m) | 0          | <b>0</b>     | <1       | 0        |
| Phosphorus | ppm | ASTM D5185(m) | 2.4        | <b>1</b>     | 2        | 0        |
| Zinc       | ppm | ASTM D5185(m) | 0          | <b>2</b>     | 2        | <1       |
| Sulfur     | ppm | ASTM D5185(m) |            | <b>1925</b>  | 1931     | 2042     |
| Lithium    | ppm | ASTM D5185(m) |            | <b>&lt;1</b> | <1       | <1       |

| CONTAMINANTS |     | method        | limit/base | current  | history1 | history2 |
|--------------|-----|---------------|------------|----------|----------|----------|
| Silicon      | ppm | ASTM D5185(m) | >20        | <b>3</b> | 3        | <1       |
| Sodium       | ppm | ASTM D5185(m) |            | <b>0</b> | <1       | 0        |
| Potassium    | ppm | ASTM D5185(m) | >20        | <b>0</b> | <1       | 0        |

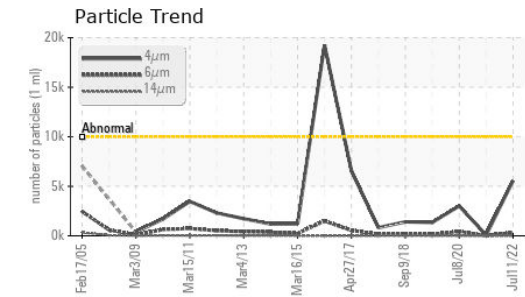
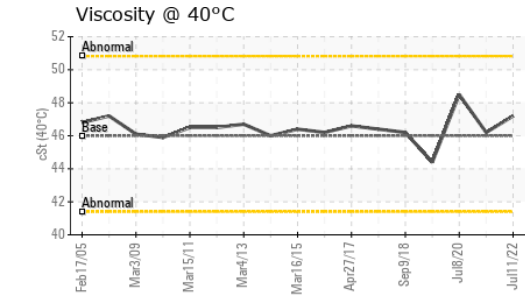
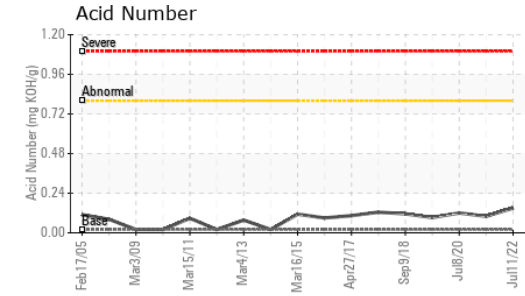
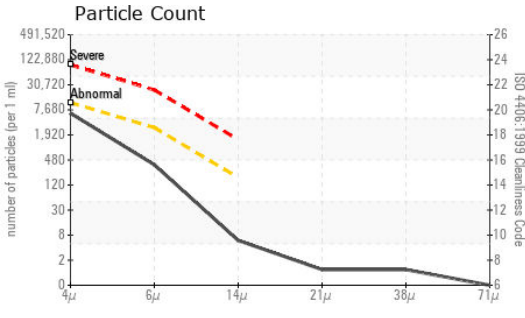
| FLUID CLEANLINESS |              | method    | limit/base      | current  | history1 | history2 |
|-------------------|--------------|-----------|-----------------|----------|----------|----------|
| Particles >4µm    | ASTM D7647   | >10000    | <b>5571</b>     | 69       | 3011     |          |
| Particles >6µm    | ASTM D7647   | >2500     | <b>324</b>      | 21       | 432      |          |
| Particles >14µm   | ASTM D7647   | >160      | <b>5</b>        | 5        | 12       |          |
| Particles >21µm   | ASTM D7647   | >40       | <b>1</b>        | 2        | 3        |          |
| Particles >38µm   | ASTM D7647   | >10       | <b>1</b>        | 0        | 0        |          |
| Particles >71µm   | ASTM D7647   | >3        | <b>0</b>        | 0        | 0        |          |
| Oil Cleanliness   | ISO 4406 (c) | >20/18/14 | <b>20/16/10</b> | 13/12/10 | 19/16/11 |          |

Particle Filter (Magn: 200 x)





# OIL ANALYSIS REPORT

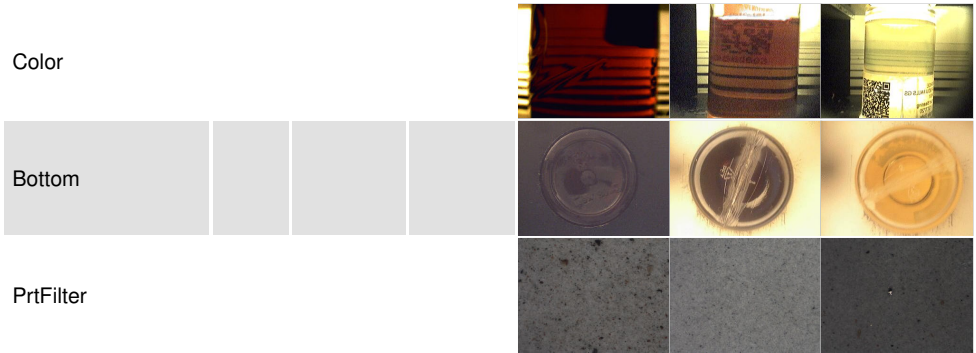


| FLUID DEGRADATION | method   | limit/base | current | history1    | history2 |      |
|-------------------|----------|------------|---------|-------------|----------|------|
| Acid Number (AN)  | mg KOH/g | ASTM D974* | 0.02    | <b>0.15</b> | 0.10     | 0.12 |

| VISUAL           | method | limit/base | current | history1     | history2 |         |
|------------------|--------|------------|---------|--------------|----------|---------|
| White Metal      | scalar | Visual*    | NONE    | <b>VLITE</b> | NONE     | ▲ VLITE |
| Yellow Metal     | scalar | Visual*    | NONE    | <b>NONE</b>  | NONE     | NONE    |
| Precipitate      | scalar | Visual*    | NONE    | <b>NONE</b>  | NONE     | NONE    |
| Silt             | scalar | Visual*    | NONE    | <b>NONE</b>  | NONE     | NONE    |
| Debris           | scalar | Visual*    | NONE    | <b>NONE</b>  | VLITE    | 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*    | >2      | <b>NEG</b>   | NEG      | NEG     |
| Free Water       | scalar | Visual*    |         | <b>NEG</b>   | NEG      | NEG     |

| FLUID PROPERTIES | method | limit/base    | current | history1    | history2 |      |
|------------------|--------|---------------|---------|-------------|----------|------|
| Visc @ 40°C      | cSt    | ASTM D7279(m) | 46      | <b>47.2</b> | 46.2     | 48.5 |

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



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0686290 **Received** : 12 Jul 2022  
**Lab Number** : **02499214** **Diagnosed** : 14 Jul 2022  
**Unique Number** : 5424174 **Diagnostician** : Kevin Marson  
**Test Package** : IND 2 ( Additional Tests: BottomAnalysis, FilterPatch, PrtCount, TAN Man )  
 To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

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