



# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**[C-GGTR] DEHAVILLAND DHC-8-402 C-GGTR**  
 Component  
**Right Jet Turbine**  
 Fluid  
**{not provided} (--- 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. Please specify the brand, type, and viscosity of the oil on your next sample.

### Wear

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

### Contaminants

The water content is negligible. There is no indication of any contamination in the oil.

### Oil 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>WC0954078</b>   | ---      | ---      |
| Sample Date   | Client Info |             | <b>13 Jun 2024</b> | ---      | ---      |
| TSN           | hrs         | Client Info | <b>0</b>           | ---      | ---      |
| TSO           | hrs         | Client Info | <b>0</b>           | ---      | ---      |
| Oil Age       | hrs         | Client Info | <b>0</b>           | ---      | ---      |
| Oil Changed   |             | Client Info | <b>N/A</b>         | ---      | ---      |
| Sample Status |             |             | <b>NORMAL</b>      | ---      | ---      |

## WEAR METALS

|           | method | limit/base       | current  | history1 | history2 |
|-----------|--------|------------------|----------|----------|----------|
| Iron      | ppm    | ASTM D5185(m) >8 | <b>0</b> | ---      | ---      |
| Chromium  | ppm    | ASTM D5185(m) >2 | <b>0</b> | ---      | ---      |
| Nickel    | ppm    | ASTM D5185(m) >2 | <b>0</b> | ---      | ---      |
| Titanium  | ppm    | ASTM D5185(m) >2 | <b>0</b> | ---      | ---      |
| Silver    | ppm    | ASTM D5185(m) >2 | <b>0</b> | ---      | ---      |
| Aluminum  | ppm    | ASTM D5185(m) >2 | <b>0</b> | ---      | ---      |
| Lead      | ppm    | ASTM D5185(m) >3 | <b>0</b> | ---      | ---      |
| Copper    | ppm    | ASTM D5185(m) >3 | <b>0</b> | ---      | ---      |
| Tin       | ppm    | ASTM D5185(m) >2 | <b>0</b> | ---      | ---      |
| Antimony  | ppm    | ASTM D5185(m)    | <b>0</b> | ---      | ---      |
| Vanadium  | ppm    | ASTM D5185(m)    | <b>0</b> | ---      | ---      |
| Beryllium | ppm    | ASTM D5185(m)    | <b>0</b> | ---      | ---      |
| Cadmium   | ppm    | ASTM D5185(m)    | <b>0</b> | ---      | ---      |

## ADDITIVES

|            | method | limit/base    | current      | history1 | history2 |
|------------|--------|---------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185(m) | <b>&lt;1</b> | ---      | ---      |
| Barium     | ppm    | ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Molybdenum | ppm    | ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Manganese  | ppm    | ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Magnesium  | ppm    | ASTM D5185(m) | <b>&lt;1</b> | ---      | ---      |
| Calcium    | ppm    | ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Phosphorus | ppm    | ASTM D5185(m) | <b>2633</b>  | ---      | ---      |
| Zinc       | ppm    | ASTM D5185(m) | <b>&lt;1</b> | ---      | ---      |
| Sulfur     | ppm    | ASTM D5185(m) | <b>5</b>     | ---      | ---      |
| Lithium    | ppm    | ASTM D5185(m) | <b>&lt;1</b> | ---      | ---      |

## CONTAMINANTS

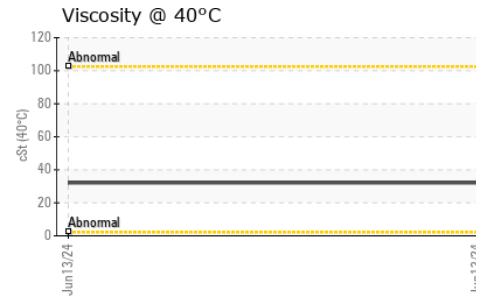
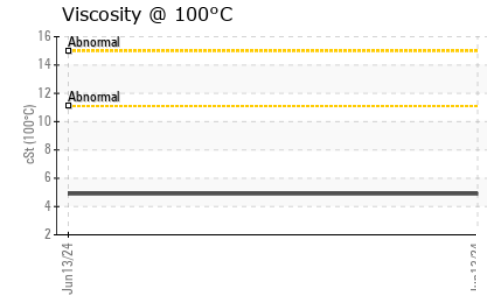
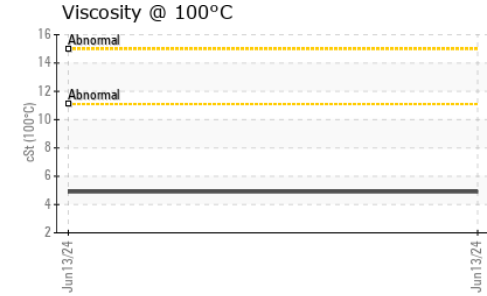
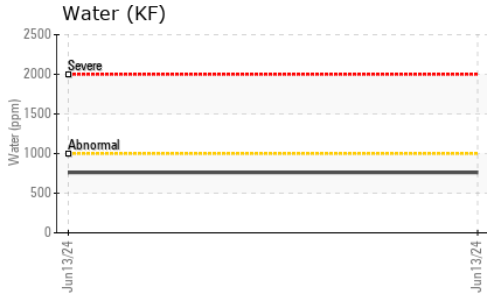
|           | method | limit/base        | current      | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon   | ppm    | ASTM D5185(m) >8  | <b>3</b>     | ---      | ---      |
| Sodium    | ppm    | ASTM D5185(m)     | <b>&lt;1</b> | ---      | ---      |
| Potassium | ppm    | ASTM D5185(m) >20 | <b>0</b>     | ---      | ---      |
| Water     | %      | ASTM D6304* >0.1  | <b>0.076</b> | ---      | ---      |
| ppm Water | ppm    | ASTM D6304* >1000 | <b>761</b>   | ---      | ---      |

## FLUID DEGRADATION

|                  | method   | limit/base | current     | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | <b>0.35</b> | ---      | ---      |



# OIL ANALYSIS REPORT



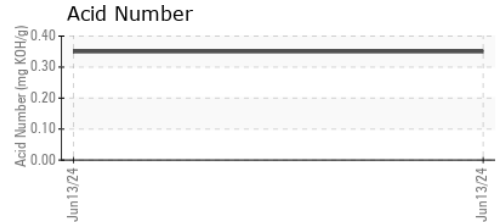
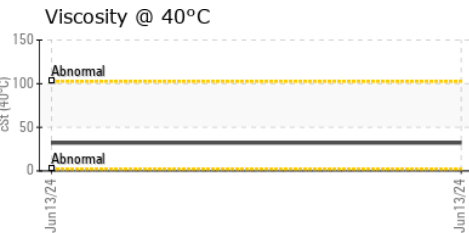
| PARAMETER        | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | Visual*    | NONE    | NONE     | ---      |
| Yellow Metal     | scalar | Visual*    | NONE    | NONE     | ---      |
| 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*    | >0.1    | NEG      | ---      |
| Free Water       | scalar | Visual*    |         | NEG      | ---      |

| FLUID PROPERTIES     | method | limit/base    | current | history1 | history2 |
|----------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C          | cSt    | ASTM D7279(m) | 32.1    | ---      | ---      |
| Visc @ 100°C         | cSt    | ASTM D7279(m) | 4.9     | ---      | ---      |
| Viscosity Index (VI) | Scale  | ASTM D2270*   | 58      | ---      | ---      |

### SAMPLE IMAGES

| PARAMETER | method | limit/base | current | history1 | history2 |
|-----------|--------|------------|---------|----------|----------|
| Color     |        |            |         | no image | no image |
| Bottom    |        |            |         | no image | no image |

### GRAPHS



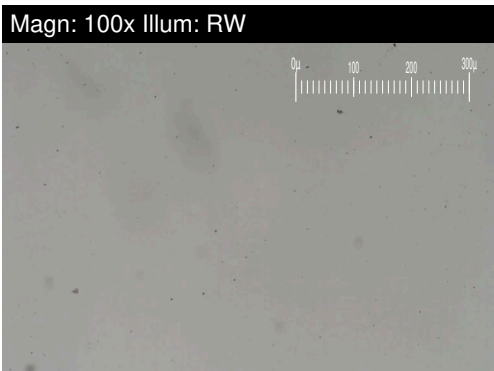
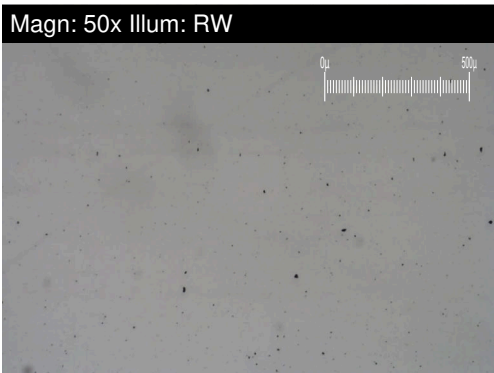
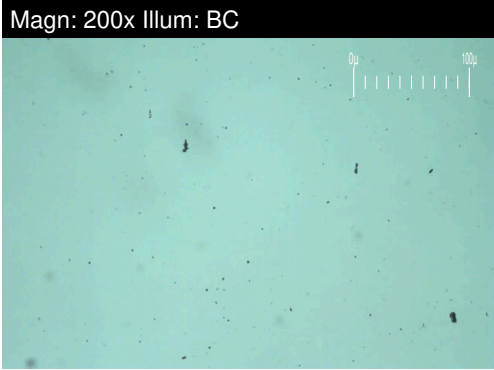
**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0954078 **Received** : 14 Jun 2024  
**Lab Number** : 02641959 **Tested** : 17 Jun 2024  
**Unique Number** : 5799498 **Diagnosed** : 17 Jun 2024 - Kevin Marson  
**Test Package** : AVI 3

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.

**SMART AVIATION**  
 775 COUNTY ROAD 64  
 BRIGHTON, ON  
 CA K0K 1H0  
 Contact: Mark Rinaldi  
 mark.rinaldi@smartams.ca  
 T: (343)645-4361  
 F:

# FERROGRAPHY REPORT

Machine Id  
**[C-GGTR] DEHAVILLAND DHC-8-402 C-GGTR**  
 Component  
**Right Jet Turbine**  
 Fluid  
**{not provided} (--- GAL)**

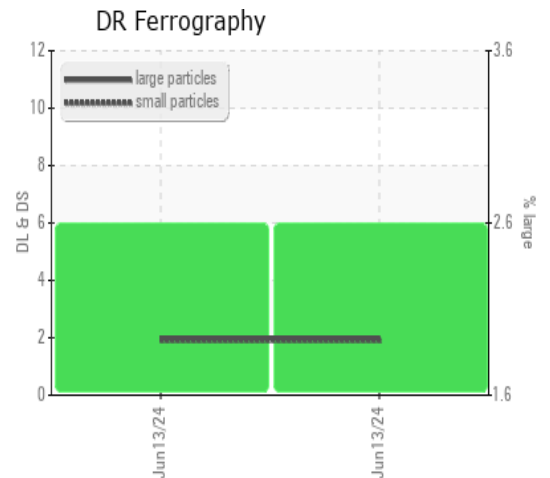


| DR-FERROGRAPHY             |   | method   | limit/base | current    | history1 | history2 |
|----------------------------|---|----------|------------|------------|----------|----------|
| Large Particles            |   | DR-Ferr* |            | <b>2.0</b> | ---      | ---      |
| Small Particles            |   | DR-Ferr* |            | <b>1.9</b> | ---      | ---      |
| Total Particles            |   | DR-Ferr* | >---       | <b>3.9</b> | ---      | ---      |
| Large Particles Percentage | % | DR-Ferr* |            | <b>2.6</b> | ---      | ---      |
| Severity Index             |   | DR-Ferr* |            | <b>0</b>   | ---      | ---      |

| FERROGRAPHY           |            | method      | limit/base | current  | history1 | history2 |
|-----------------------|------------|-------------|------------|----------|----------|----------|
| Ferrous Rubbing       | Scale 0-10 | ASTM D7684* |            | <b>1</b> |          |          |
| Ferrous Sliding       | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Ferrous Cutting       | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Ferrous Rolling       | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Ferrous Break-in      | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Ferrous Spheres       | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Ferrous Black Oxides  | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Ferrous Red Oxides    | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Ferrous Corrosive     | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Ferrous Other         | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Nonferrous Rubbing    | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Nonferrous Sliding    | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Nonferrous Cutting    | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Nonferrous Rolling    | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Nonferrous Other      | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Carbonaceous Material | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Lubricant Degradation | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Sand/Dirt             | Scale 0-10 | ASTM D7684* |            | <b>1</b> |          |          |
| Fibres                | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Spheres               | Scale 0-10 | ASTM D7684* |            |          |          |          |
| Other                 | Scale 0-10 | ASTM D7684* |            | <b>1</b> |          |          |

### WEAR

All component wear rates are normal.  
 The ferrography results are normal indicating no abnormal wear in the system.



*This page left intentionally blank*