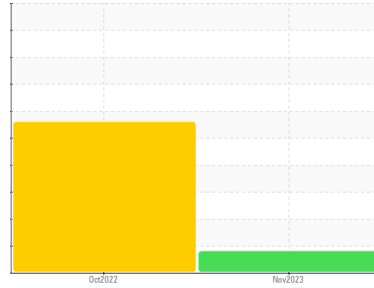




# OIL ANALYSIS REPORT

Sample Rating Trend

**WEAR**



Area  
**(C-GKSY)**  
Machine Id  
**[C-GKSY] PIPER PA31 L-6626-61A**  
Component  
**Right Piston Aircraft Engine**  
Fluid  
**SHELL AEROSHELL W 15W50 MGR (10 LTR)**

## DIAGNOSIS

### ▲ Recommendation

Nous vous recommandons de vérifier la mise au point et le réglage du moteur. Nous vous recommandons de vérifier l'espacement des soupapes et des guides de soupape. Nous vous recommandons de vidanger l'huile de ce composant si vous ne l'avez pas déjà fait. Nous vous recommandons d'échantillonner de nouveau dès que possible afin de contrôler la situation.

### ▲ Wear

Usure de la soupape d'échappement.

### Contamination

La teneur en eau est négligeable. Il n'y a aucun indice de contamination dans l'huile.

### Fluid Condition

l'huile n'est plus en état de service en raison d'une usure anormale et/ou sévère.

## SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1    | history2 |
|---------------|-------------|-------------|--------------------|-------------|----------|
| Sample Number | Client Info |             | <b>WC0765792</b>   | WC0521264   | ---      |
| Sample Date   | Client Info |             | <b>28 Nov 2023</b> | 21 Oct 2022 | ---      |
| TSN           | hrs         | Client Info | <b>0</b>           | 0           | ---      |
| TSO           | hrs         | Client Info | <b>0</b>           | 1337        | ---      |
| Oil Age       | hrs         | Client Info | <b>0</b>           | 54          | ---      |
| Oil Changed   |             | Client Info | <b>N/A</b>         | Changed     | ---      |
| Sample Status |             |             | <b>ABNORMAL</b>    | ABNORMAL    | ---      |

## CONTAMINATION

|        | method    | limit/base | current        | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel   | WC Method | >4.0       | <b>&lt;1.0</b> | <1.0     | ---      |
| Glycol | WC Method |            | <b>NEG</b>     | NEG      | ---      |

## WEAR METALS

|           | method | limit/base    | current | history1     | history2 |     |
|-----------|--------|---------------|---------|--------------|----------|-----|
| Iron      | ppm    | ASTM D5185(m) | >90     | <b>79</b>    | ▲ 127    | --- |
| Chromium  | ppm    | ASTM D5185(m) | >20     | <b>15</b>    | ▲ 30     | --- |
| Nickel    | ppm    | ASTM D5185(m) | >15     | ▲ <b>15</b>  | ▲ 18     | --- |
| Titanium  | ppm    | ASTM D5185(m) |         | <b>0</b>     | <1       | --- |
| Silver    | ppm    | ASTM D5185(m) | >5      | <b>&lt;1</b> | 0        | --- |
| Aluminum  | ppm    | ASTM D5185(m) | >25     | <b>10</b>    | ▲ 26     | --- |
| Lead      | ppm    | ASTM D5185(m) | >20000  | <b>8637</b>  | 9534     | --- |
| Copper    | ppm    | ASTM D5185(m) | >25     | <b>14</b>    | ▲ 55     | --- |
| Tin       | ppm    | ASTM D5185(m) | >30     | <b>0</b>     | 0        | --- |
| Antimony  | ppm    | ASTM D5185(m) |         | <b>0</b>     | <1       | --- |
| Vanadium  | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | --- |
| Beryllium | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | --- |
| Cadmium   | ppm    | ASTM D5185(m) |         | <b>&lt;1</b> | 3        | --- |

## ADDITIVES

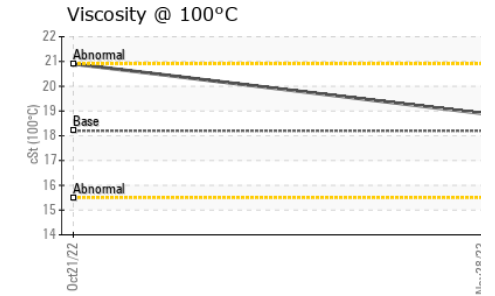
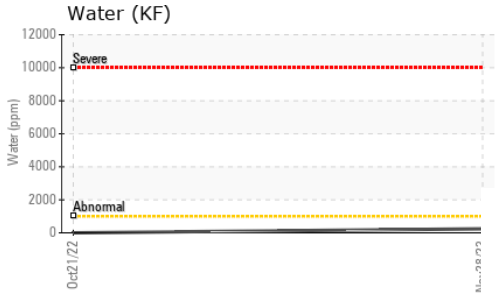
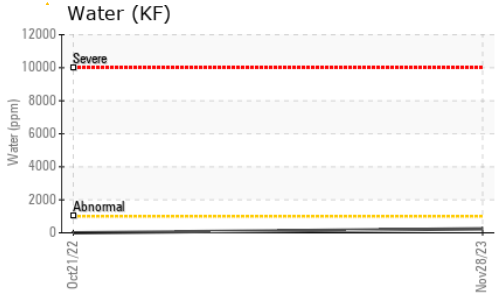
|            | method | limit/base    | current | history1     | history2 |     |
|------------|--------|---------------|---------|--------------|----------|-----|
| Boron      | ppm    | ASTM D5185(m) |         | <b>&lt;1</b> | <1       | --- |
| Barium     | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | --- |
| Molybdenum | ppm    | ASTM D5185(m) | 5       | <b>0</b>     | 0        | --- |
| Manganese  | ppm    | ASTM D5185(m) |         | <b>0</b>     | 0        | --- |
| Magnesium  | ppm    | ASTM D5185(m) | 10      | <b>3</b>     | 15       | --- |
| Calcium    | ppm    | ASTM D5185(m) | 10      | <b>1</b>     | 2        | --- |
| Phosphorus | ppm    | ASTM D5185(m) | 1280    | <b>1063</b>  | 1018     | --- |
| Zinc       | ppm    | ASTM D5185(m) | 10      | <b>6</b>     | 30       | --- |
| Sulfur     | ppm    | ASTM D5185(m) | 1800    | <b>1066</b>  | 1045     | --- |
| Lithium    | ppm    | ASTM D5185(m) |         | <b>&lt;1</b> | <1       | --- |

## CONTAMINANTS

|           | method | limit/base    | current | history1     | history2 |     |
|-----------|--------|---------------|---------|--------------|----------|-----|
| Silicon   | ppm    | ASTM D5185(m) | >15     | <b>4</b>     | 12       | --- |
| Sodium    | ppm    | ASTM D5185(m) |         | <b>1</b>     | 2        | --- |
| Potassium | ppm    | ASTM D5185(m) | >20     | <b>0</b>     | <1       | --- |
| Water     | %      | ASTM D6304*   | >0.1    | <b>0.024</b> | ---      | --- |
| ppm Water | ppm    | ASTM D6304*   | >1000   | <b>244</b>   | ---      | --- |



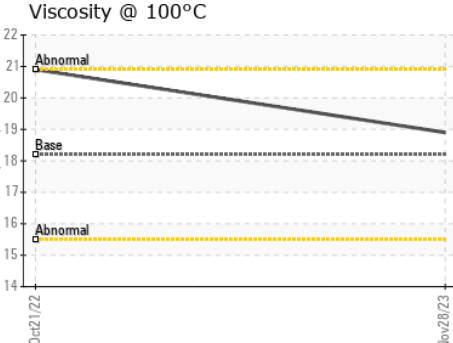
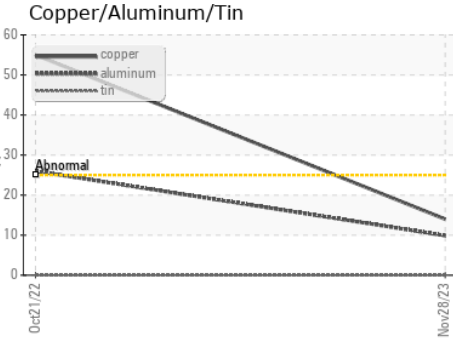
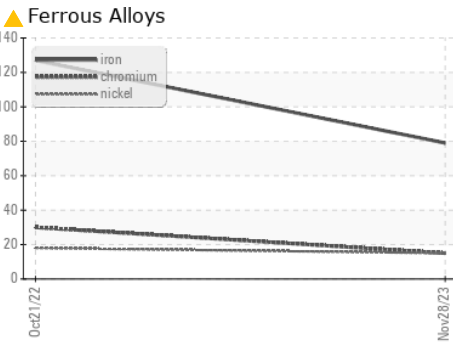
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1     | history2 |     |
|------------------|--------|------------|---------|--------------|----------|-----|
| White Metal      | scalar | Visual*    | NONE    | <b>NONE</b>  | NONE     | --- |
| Yellow Metal     | scalar | Visual*    | NONE    | <b>NONE</b>  | NONE     | --- |
| Precipitate      | scalar | Visual*    | NONE    | <b>NONE</b>  | NONE     | --- |
| Silt             | scalar | Visual*    | NONE    | <b>NONE</b>  | VLITE    | --- |
| Debris           | scalar | Visual*    | NONE    | <b>NONE</b>  | NONE     | --- |
| Sand/Dirt        | scalar | Visual*    | NONE    | <b>NONE</b>  | NONE     | --- |
| Appearance       | scalar | Visual*    | NORML   | <b>NORML</b> | NORML    | --- |
| Odor             | scalar | Visual*    | NORML   | <b>NORML</b> | NORML    | --- |
| Emulsified Water | scalar | Visual*    | >0.1    | <b>.2%</b>   | ▲ .2%    | --- |
| Free Water       | scalar | Visual*    |         | <b>NEG</b>   | ▲ 1%     | --- |

| FLUID PROPERTIES | method | limit/base    | current | history1    | history2 |     |
|------------------|--------|---------------|---------|-------------|----------|-----|
| Visc @ 100°C     | cSt    | ASTM D7279(m) | 18.2    | <b>18.9</b> | 20.9     | --- |

### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0765792 **Received** : 05 Dec 2023  
**Lab Number** : **02600955** **Tested** : 06 Dec 2023  
**Unique Number** : 5694040 **Diagnosed** : 06 Dec 2023 - Kevin Marson  
**Test Package** : AVI 1 ( Additional Tests: KF )

**A@Z Aviation**  
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 CA J2L 2X4  
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 alain.guillemette@videotron.ca  
 T: (450)534-1010  
 F:

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.