

3319 W. Earll Drive, Phoenix, Arizona 85017  
 Phone: 800-445-7930 Fax: 602-252-4639  
<http://webtrieve.alstribology.com> \*\*\*\*email: [aoa@alstribology.com](mailto:aoa@alstribology.com)

|                       |                                        |                        |         |                        |                           |
|-----------------------|----------------------------------------|------------------------|---------|------------------------|---------------------------|
| <b>Customer Name:</b> | DANIEL HOBAN                           | <b>Tail Number:</b>    | N231DD  | <b>Comp Serial No:</b> | 309159                    |
| <b>Address:</b>       | 2323 P-51 Ct<br>Minden NV 89423<br>USA | <b>Aircraft Make:</b>  | Mooney  | <b>Comp Name:</b>      | Single Engine TSIO-360gb1 |
| <b>Phone:</b>         |                                        | <b>Aircraft Model:</b> | M20K    | <b>Comp Make:</b>      | Continental               |
| <b>Fax:</b>           |                                        | <b>Serial No:</b>      | 25-0155 | <b>Comp Model:</b>     | .                         |
|                       |                                        | <b>UIN:</b>            | 01DE8EE |                        |                           |

|                      |                |               |
|----------------------|----------------|---------------|
| <b>Sample No.</b>    | 44150381987    | 44110993306   |
| <b>SIF No.</b>       | AOAA10042173   | 9893969       |
| <b>Date Sampled</b>  | 20-Jul-26      | 22-Mar-10     |
| <b>Date Tested</b>   | 27-Jul-26      | 29-Mar-10     |
| <b>Oil Brand</b>     | Phillips 66    | Shell         |
| <b>Oil Type</b>      | XC Aviation MV | AeroShell 100 |
| <b>Oil Grade</b>     | SAE 20W50      | SAE 50        |
| <b>Oil Hrs</b>       |                | 45            |
| <b>Oil Added</b>     |                | 0.0           |
| <b>Hrs Since New</b> |                | 0             |
| <b>Rebuild Hrs</b>   |                | 1024          |

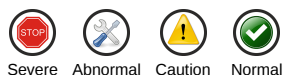
|                     |         |       |
|---------------------|---------|-------|
| <b>Metals (ppm)</b> |         |       |
| Chromium (Cr)       | 0.69    |       |
| Molybdenum (Mo)     | <1      |       |
| Aluminium (Al)      | 3       | 9     |
| Iron (Fe)           | 8.53    | 24.90 |
| Copper (Cu)         | 2.80    | 9.60  |
| Nickel (Ni)         | <1      | 3     |
| Tin (Sn)            | <1      |       |
| Lead (Pb)           | 2031.39 |       |
| Silver (Ag)         | <1      | <1    |
| Titanium (Ti)       | <1      |       |

|                           |       |   |
|---------------------------|-------|---|
| <b>Contaminants (ppm)</b> |       |   |
| Silicon (Si)              | 3     | 6 |
| Water (%)                 | <0.05 |   |

|                        |      |  |
|------------------------|------|--|
| <b>Additives (ppm)</b> |      |  |
| Magnesium (Mg)         | <1   |  |
| Calcium (Ca)           | <1   |  |
| Phosphorus (P)         | 1024 |  |
| Zinc (Zn)              | 5    |  |
| Boron (B)              | <5   |  |

|                       |      |  |
|-----------------------|------|--|
| <b>Physical Tests</b> |      |  |
| Viscosity (cSt 100C)  | 17.8 |  |
| PQ Index              | <10  |  |

#### LEGEND



### Sample No.

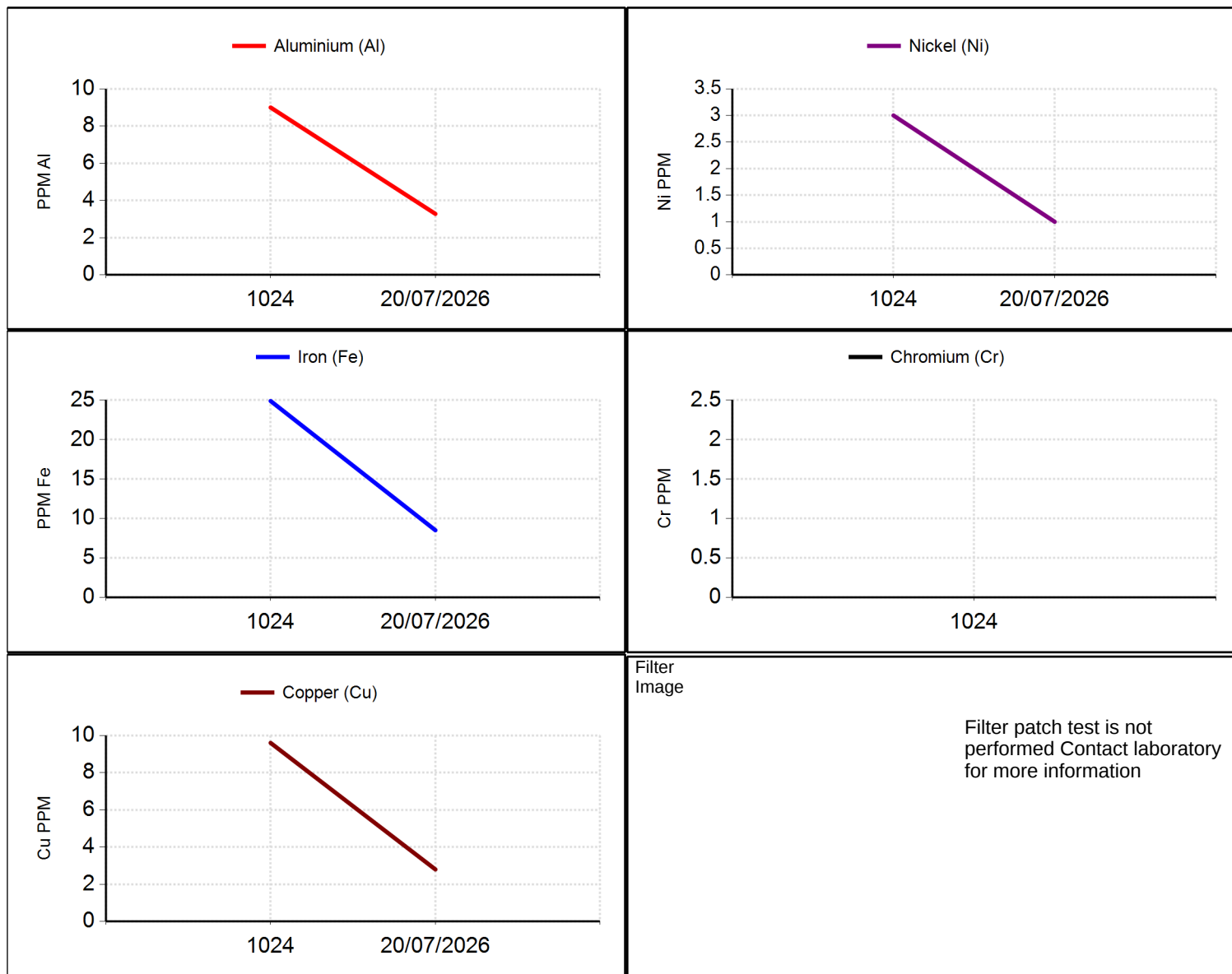
### Diagnosis/Recommendations

**44150381987**

Engine / Oil time unknown. All wear rates normal. Abrasive and other contaminant levels are acceptable. Viscosity within specified operating range. Action: Resample next recommended service interval to further monitor.

**44110993306**

Time On Unit Is Since Overhaul, All Values Appear Normal



*Since services are based on samples and information supplied by others, and since corrective actions, if any, are necessarily taken by others, these services are rendered without any warranty or liability of any kind beyond the actual amount paid to ALS Laboratory group for the services. Reported recommendations are based on interpretations of the generated test results and historical data. Certain test results appearing in this report may have been tested at other ALS laboratories within the Tribology divisional network.*

Daniel Hoban  
Attn: Daniel Hoban  
2323 P-51 Ct  
Minden NV 89423  
USA

**TEST  
METHODS:**

|                   |                          |
|-------------------|--------------------------|
| Acid Number:      | ASTM D974/D664           |
| ICP:              | ASTM D5185               |
| Viscosity:        | ASTM D445 / D7279        |
| Water by Crackle: | ASTM E203 Mod / In House |