



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area  
**(CGJRH)**  
Machine Id  
**[CGJRH] PIPER PA31-350 L-2779-68A**  
Component  
**Right Piston Aircraft Engine**  
Fluid  
**PHILLIPS 66 AVIATION X/C OIL SAE20W50 (14 LTR)**

## RECOMMENDATION

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0838465</b>	WC0830824	WC0826687
Sample Date		Client Info		<b>12 Jan 2024</b>	03 Oct 2023	29 Jul 2023
TSN	hrs	Client Info		<b>0</b>	0	0
TSO	hrs	Client Info		<b>0</b>	3977	3821
Oil Age	hrs	Client Info		<b>49</b>	41	41
Filter Age	hrs	Client Info		<b>49</b>	41	41
Oil Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>90	<b>38</b>	39	24
Chromium	ppm	ASTM D5185(m)	>20	<b>9</b>	9	8
Nickel	ppm	ASTM D5185(m)	>15	<b>10</b>	12	8
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>25	<b>7</b>	7	8
Lead	ppm	ASTM D5185(m)	>20000	<b>7016</b>	6918	4493
Copper	ppm	ASTM D5185(m)	>25	<b>5</b>	6	5
Tin	ppm	ASTM D5185(m)	>30	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

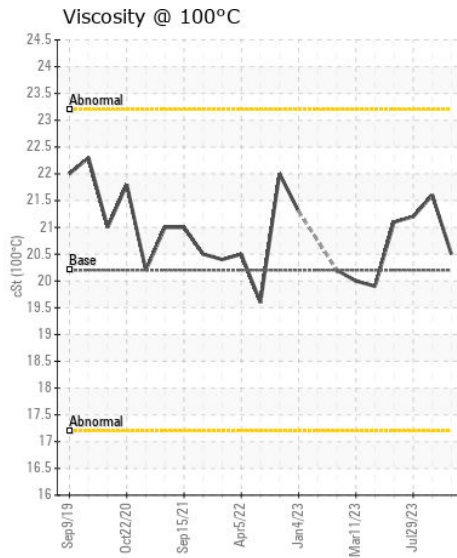
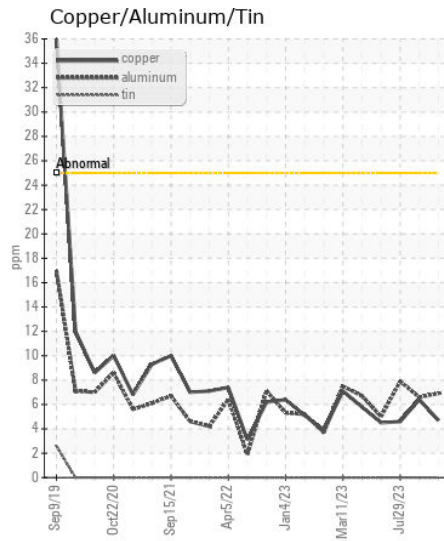
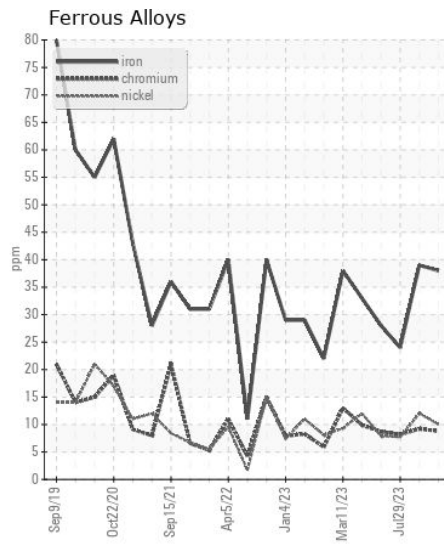
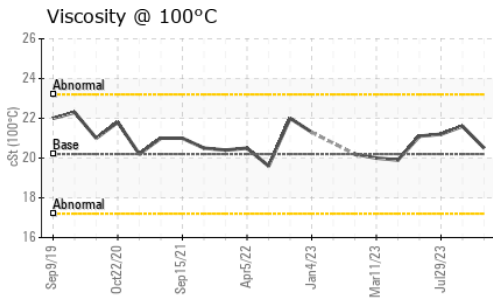
There is a moderate concentration of water present in the oil. Free water present.

Silicon	ppm	ASTM D5185(m)	>15	<b>6</b>	4	5
Potassium	ppm	ASTM D5185(m)	>20	<b>1</b>	0	<1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Silt	scalar	Visual*	NONE	<b>NONE</b>	LIGHT	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>▲ WGOIL</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	<b>.2%</b>	.2%	NEG

## FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Boron	ppm	ASTM D5185(m)	0.0	<b>0</b>	<1	<1
Barium	ppm	ASTM D5185(m)	0.0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	0.0	<b>0</b>	0	<1
Manganese	ppm	ASTM D5185(m)	0.0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	0.0	<b>6</b>	2	3
Calcium	ppm	ASTM D5185(m)	4.7	<b>3</b>	<1	3
Phosphorus	ppm	ASTM D5185(m)	0.0	<b>&lt;1</b>	1	5
Zinc	ppm	ASTM D5185(m)	0.1	<b>4</b>	2	4
Sulfur	ppm	ASTM D5185(m)	848	<b>1033</b>	985	954
Visc @ 100°C	cSt	ASTM D7279(m)	20.2	<b>20.5</b>	21.6	21.2



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0838465  
**Lab Number** : 02609694  
**Unique Number** : 5710780  
**Test Package** : AVI 1

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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.