



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Area

(C-FAQR)

Machine Id

[C-FAQR] PIPER PA31-250 L-2542-68A

Component

Piston Aircraft Engine

Fluid

PHILLIPS 66 AVIATION X/C OIL SAE20W50 (12 LTR)

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0896295</b>	WC0886709	WC0886716
Sample Date		Client Info		<b>24 Jun 2024</b>	21 Mar 2024	05 Jan 2024
TSN	hrs	Client Info		<b>0</b>	7618	7433
TSO	hrs	Client Info		<b>1469</b>	1265	1080
Oil Age	hrs	Client Info		<b>54</b>	59	65
Filter Age	hrs	Client Info		<b>54</b>	59	65
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>90	<b>28</b>	36	31
Chromium	ppm	ASTM D5185(m)	>20	<b>12</b>	14	14
Nickel	ppm	ASTM D5185(m)	>15	<b>8</b>	11	5
Titanium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>25	<b>9</b>	8	8
Lead	ppm	ASTM D5185(m)	>20000	<b>7276</b>	11257	3360
Copper	ppm	ASTM D5185(m)	>25	<b>6</b>	10	14
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

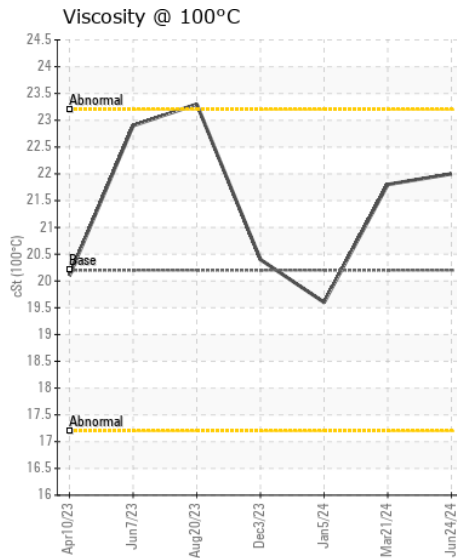
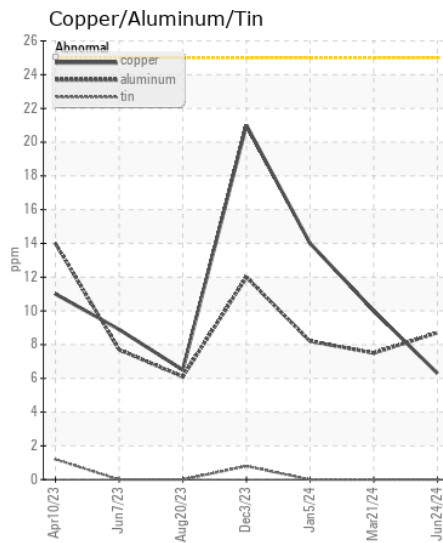
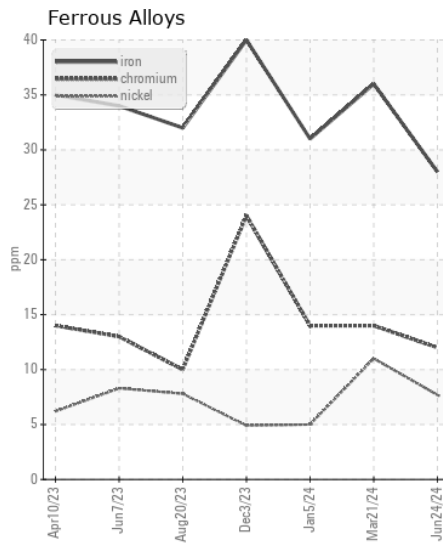
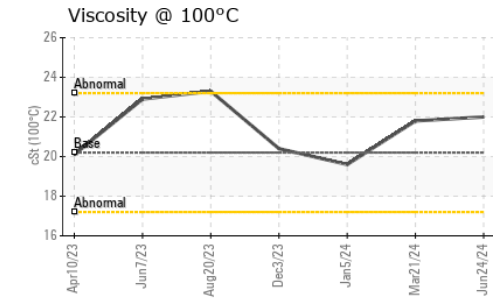
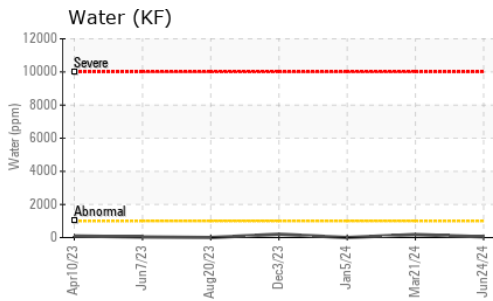
The water content is negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>15	<b>10</b>	4	13
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	%	ASTM D6304*	>0.1	<b>0.004</b>	0.018	---
ppm Water	ppm	ASTM D6304*	>1000	<b>44</b>	183	---
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Silt	scalar	Visual*	NONE	<b>VLITE</b>	LIGHT	VLITE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	VLITE
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*	>0.1	<b>.2%</b>	.2%	NEG

## FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	3	8
Boron	ppm	ASTM D5185(m)	0.0	<b>0</b>	0	<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>1</b>	4	6
Calcium	ppm	ASTM D5185(m)	4.7	<b>&lt;1</b>	1	5
Phosphorus	ppm	ASTM D5185(m)	0.0	<b>&lt;1</b>	0	<1
Zinc	ppm	ASTM D5185(m)	0.1	<b>2</b>	2	4
Sulfur	ppm	ASTM D5185(m)	848	<b>993</b>	979	979
Visc @ 100°C	cSt	ASTM D7279(m)	20.2	<b>22.0</b>	21.8	19.6



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0896295  
**Lab Number** : 02644804  
**Unique Number** : 5802343  
**Test Package** : AVI 1 ( Additional Tests: KF )  
**Received** : 02 Jul 2024  
**Tested** : 03 Jul 2024  
**Diagnosed** : 03 Jul 2024 - Kevin Marson

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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.