



OIL ANALYSIS REPORT

WEAR	SEVERE
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area

(C-FIKW)

Machine Id

[C-FIKW] PIPER PA-20/22 5303-27

Component

Piston Aircraft Engine

Fluid

PHILLIPS 66 AVIATION X/C OIL SAE20W50 (6 LTR)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you check the engine magneto timing. We advise that you check for a possible too-lean mixture, or an over-advanced ignition timing. We recommend that you drain the oil from the component if this has not already been done. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

Aluminum ppm levels are severe. Chromium ppm levels are abnormal. Ring wear is indicated. High Aluminum (Al) level indicates abnormal bearing wear.

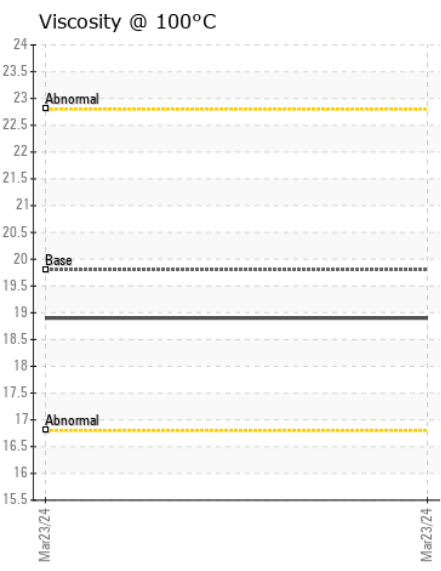
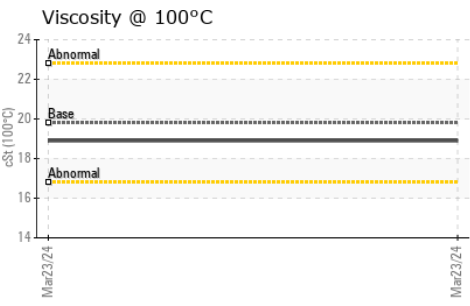
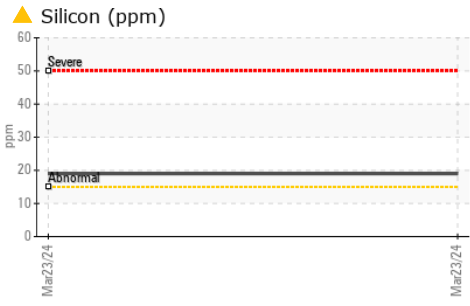
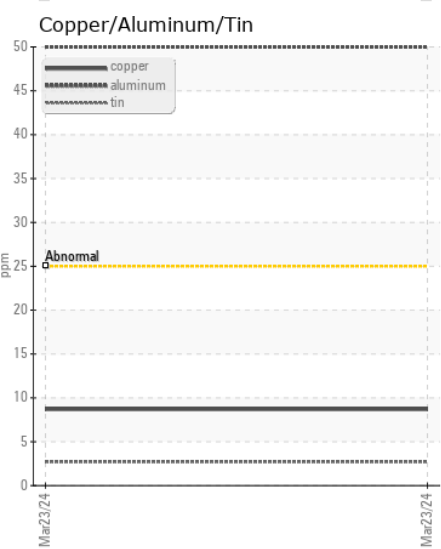
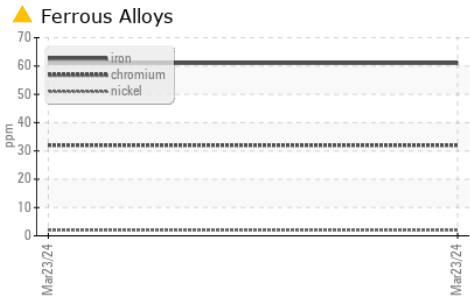
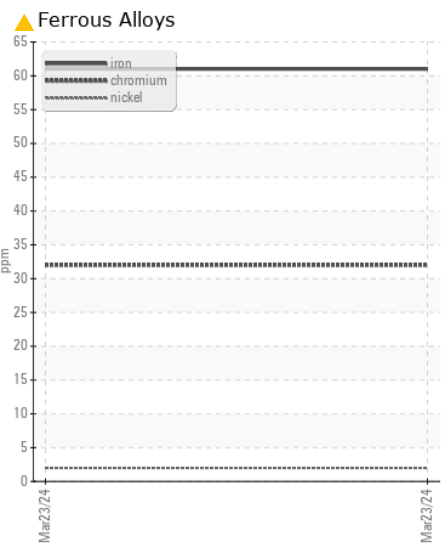
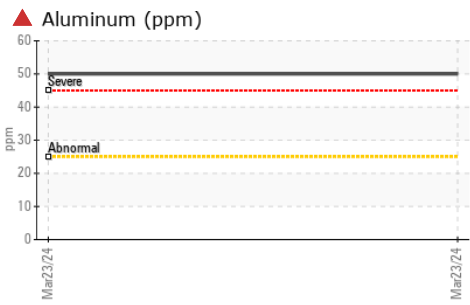
CONTAMINATION

There is a moderate concentration of dirt present in the oil. High amount of ingressed dirt has caused abrasive wear to the component.

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0894696	---	---
Sample Date		Client Info		23 Mar 2024	---	---
TSN	hrs	Client Info		1931	---	---
TSO	hrs	Client Info		1931	---	---
Oil Age	hrs	Client Info		17	---	---
Filter Age	hrs	Client Info		17	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				SEVERE	---	---
<hr/>						
Iron	ppm	ASTM D5185(m)	>90	61	---	---
Chromium	ppm	ASTM D5185(m)	>20	▲ 32	---	---
Nickel	ppm	ASTM D5185(m)	>15	2	---	---
Titanium	ppm	ASTM D5185(m)		<1	---	---
Silver	ppm	ASTM D5185(m)	>5	0	---	---
Aluminum	ppm	ASTM D5185(m)	>25	▲ 50	---	---
Lead	ppm	ASTM D5185(m)	>20000	1826	---	---
Copper	ppm	ASTM D5185(m)	>25	9	---	---
Tin	ppm	ASTM D5185(m)	>30	3	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
<hr/>						
Silicon	ppm	ASTM D5185(m)	>15	▲ 19	---	---
Potassium	ppm	ASTM D5185(m)	>20	1	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Silt	scalar	Visual*	NONE	VLITE	---	---
Debris	scalar	Visual*	NONE	VLITE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.1	NEG	---	---
<hr/>						
Sodium	ppm	ASTM D5185(m)		3	---	---
Boron	ppm	ASTM D5185(m)		<1	---	---
Barium	ppm	ASTM D5185(m)		<1	---	---
Molybdenum	ppm	ASTM D5185(m)		4	---	---
Manganese	ppm	ASTM D5185(m)		0	---	---
Magnesium	ppm	ASTM D5185(m)		3	---	---
Calcium	ppm	ASTM D5185(m)		28	---	---
Phosphorus	ppm	ASTM D5185(m)		12	---	---
Zinc	ppm	ASTM D5185(m)		22	---	---
Sulfur	ppm	ASTM D5185(m)		964	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	19.8	18.9	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0894696
Lab Number : 02626419
Unique Number : 5759551
Test Package : AVI 1
Received : 03 Apr 2024
Tested : 03 Apr 2024
Diagnosed : 03 Apr 2024 - Kevin Marson

Bert Elam
 14 Harbour Bay
 Winnipeg, MB
 CA R3T 5G6
 Contact: Bert Elam
 bert767@gmail.com
 T: (204)955-2448
 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.