



# OIL ANALYSIS REPORT

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

Area

(C-FAJR)

Machine Id

[C-FAJR] PIPER PA31-350 L-2001-68A

Component

Right Piston Aircraft Engine

Fluid

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

## RECOMMENDATION

We advise that you check the engine tuning and timing. We advise that you check for excessive valve and valve guide clearance. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0896315	WC0838457	WC0826692
Sample Date		Client Info		03 Jun 2024	26 Feb 2024	31 Oct 2023
TSN	hrs	Client Info		0	0	0
TSO	hrs	Client Info		3065	2852	2659
Oil Age	hrs	Client Info		65	42	38
Filter Age	hrs	Client Info		65	42	38
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

## WEAR

Nickel ppm levels are abnormal. Exhaust valve wear is indicated.

Iron	ppm	ASTM D5185(m)	>90	36	29	28
Chromium	ppm	ASTM D5185(m)	>20	12	8	8
Nickel	ppm	ASTM D5185(m)	>15	▲ 15	10	9
Titanium	ppm	ASTM D5185(m)		<1	0	0
Silver	ppm	ASTM D5185(m)	>5	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>25	5	6	4
Lead	ppm	ASTM D5185(m)	>20000	9800	6805	6616
Copper	ppm	ASTM D5185(m)	>25	5	5	5
Tin	ppm	ASTM D5185(m)	>30	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE

## CONTAMINATION

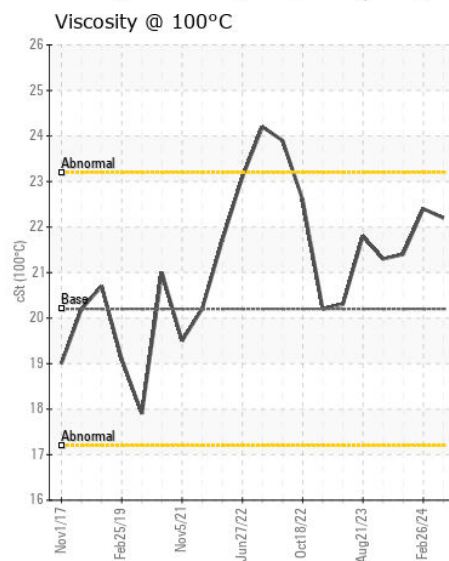
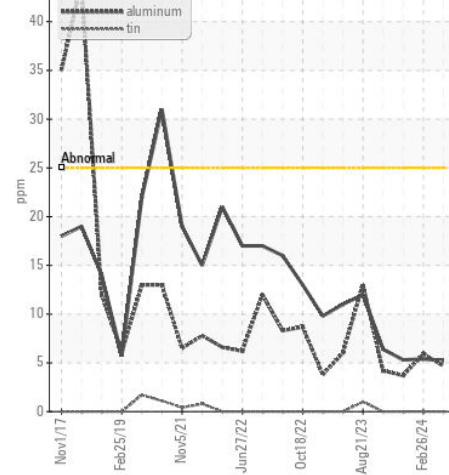
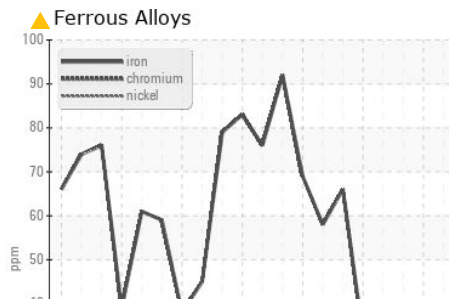
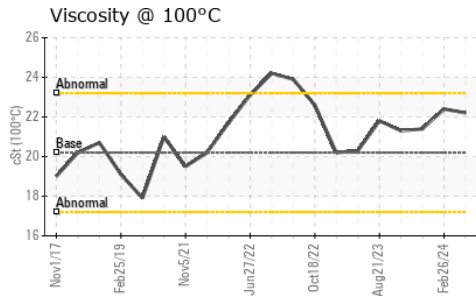
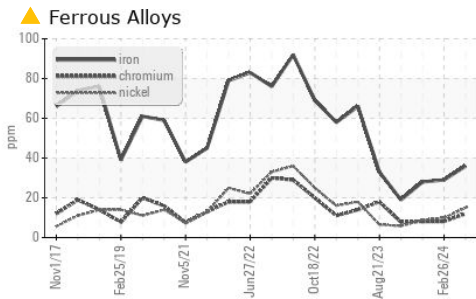
There is no indication of any contamination in the oil.

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

## FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		<1	<1	<1
Boron	ppm	ASTM D5185(m)	0.0	0	0	<1
Barium	ppm	ASTM D5185(m)	0.0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0.0	0	0	0
Manganese	ppm	ASTM D5185(m)	0.0	0	0	0
Magnesium	ppm	ASTM D5185(m)	0.0	4	6	3
Calcium	ppm	ASTM D5185(m)	4.7	3	3	<1
Phosphorus	ppm	ASTM D5185(m)	0.0	<1	0	0
Zinc	ppm	ASTM D5185(m)	0.1	4	3	2
Sulfur	ppm	ASTM D5185(m)	848	1043	1051	1057
Visc @ 100°C	cSt	ASTM D7279(m)	20.2	22.2	22.4	21.4



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0896315  
**Lab Number** : 02640484  
**Unique Number** : 5789646  
**Test Package** : AVI 1  
**Received** : 07 Jun 2024  
**Tested** : 07 Jun 2024  
**Diagnosed** : 07 Jun 2024 - Kevin Marson

**SKYCARE AIR AMBULANCE**  
 BOX 289, 17 AIRPORT ROAD  
 SIOUX LOOKOUT, ON  
 CA P8T 1A3  
 Contact: Jason Murphy  
 prm@skycare.ca  
 T: (807)737-0039  
 F: (807)737-0040

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.