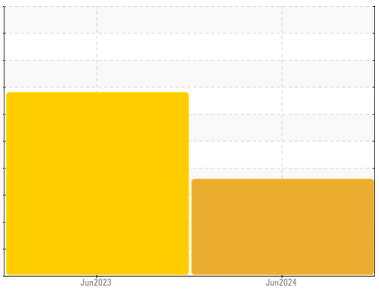
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
CESSNA C-FCRY (S/N 15074106)
Component
Front Piston Aircraft Engine
Fluid
PHILLIPS 66 20W50 X/C (6 QTS)

DIAGNOSIS

Recommendation
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 advise that you perform a compression test, and a borescope exam. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Provided compression test checks O.K., resample in 20 to 25 hours to monitor.

Wear
PQ levels are abnormal. Aluminum and iron ppm levels are abnormal. Cylinder wear is indicated. High Aluminum (Al) level indicates abnormal bearing wear. The high ferrous density (PQ) index indicates that abnormal wear is occurring.

Contamination
There is no indication of any contamination in the oil.

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC871690**	WC0809644	---
Sample Date		Client Info		**25 Jun 2024**	29 Jun 2023	---
TSN	hrs	Client Info		**6265**	6228	---
TSO	hrs	Client Info		**1457**	0	---
Oil Age	hrs	Client Info		**26**	31	---
Oil Changed		Client Info		**Changed**	Changed	---
Sample Status				**ABNORMAL**	SEVERE	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	---
Water		WC Method	>0.1	**NEG**	NEG	---
Glycol		WC Method		**NEG**	NEG	---

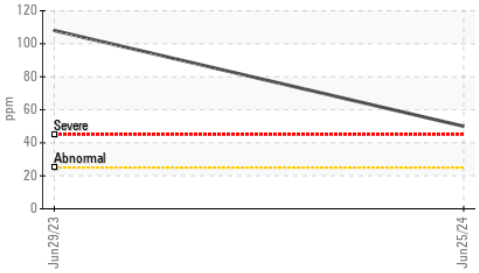
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		▲ **205**	102	---
Iron	ppm	ASTM D5185(m)	>90	▲ **320**	▲ 260	---
Chromium	ppm	ASTM D5185(m)	>20	**19**	30	---
Nickel	ppm	ASTM D5185(m)	>15	**2**	2	---
Titanium	ppm	ASTM D5185(m)		**0**	<1	---
Silver	ppm	ASTM D5185(m)	>5	**0**	0	---
Aluminum	ppm	ASTM D5185(m)	>25	▲ **50**	▲ 108	---
Lead	ppm	ASTM D5185(m)	>20000	**3148**	3081	---
Copper	ppm	ASTM D5185(m)	>25	**7**	10	---
Tin	ppm	ASTM D5185(m)	>30	**3**	5	---
Antimony	ppm	ASTM D5185(m)		**0**	0	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**1**	3	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	<1	---
Barium	ppm	ASTM D5185(m)		**0**	0	---
Molybdenum	ppm	ASTM D5185(m)		**<1**	<1	---
Manganese	ppm	ASTM D5185(m)		**3**	2	---
Magnesium	ppm	ASTM D5185(m)		**6**	13	---
Calcium	ppm	ASTM D5185(m)		**4**	2	---
Phosphorus	ppm	ASTM D5185(m)		**15**	44	---
Zinc	ppm	ASTM D5185(m)		**4**	5	---
Sulfur	ppm	ASTM D5185(m)		**928**	962	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

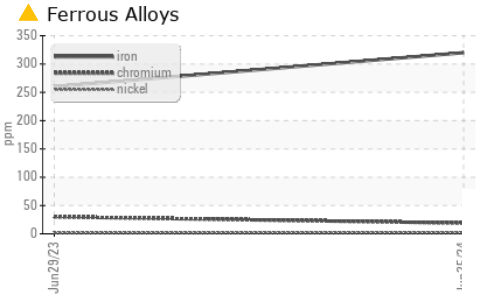
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**13**	14	---
Sodium	ppm	ASTM D5185(m)		**<1**	<1	---
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	---

OIL ANALYSIS REPORT

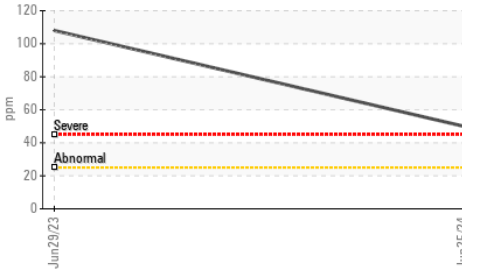
Aluminum (ppm)



Ferrous Alloys



Aluminum (ppm)



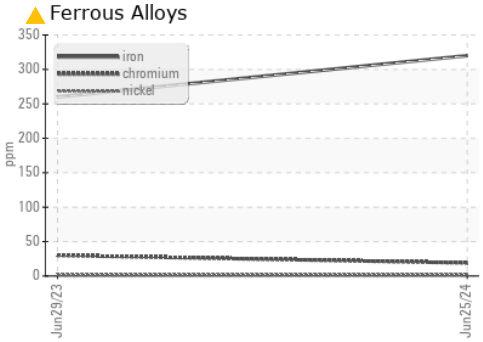
Viscosity @ 100°C

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**VLITE**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	---
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	---
Silt	scalar	Visual*	NONE	**VLITE**	VLITE	---
Debris	scalar	Visual*	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	---
Appearance	scalar	Visual*	NORML	**NORML**	NORML	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	---
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	---
Free Water	scalar	Visual*		**NEG**	NEG	---

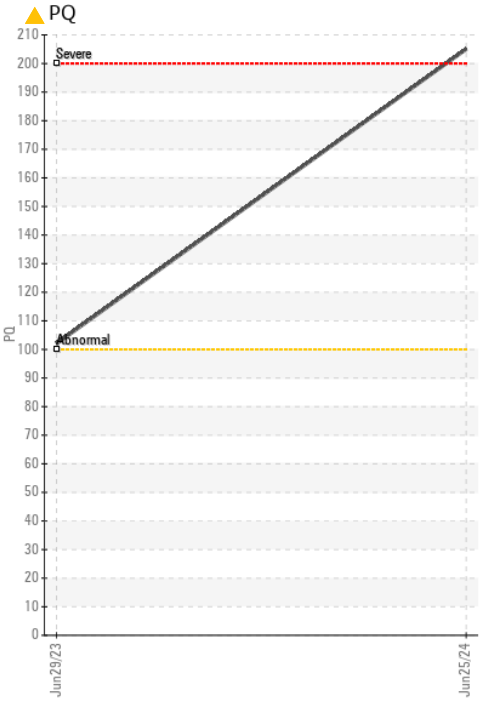
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	19.8	**19.2**	19.8	---

GRAPHS

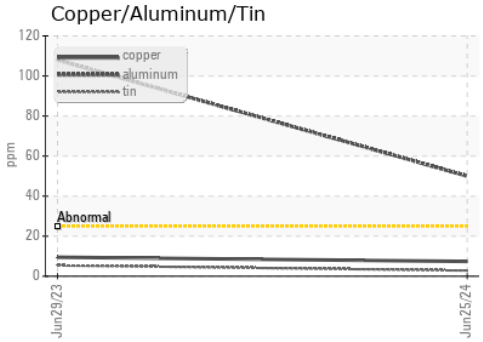
Ferrous Alloys



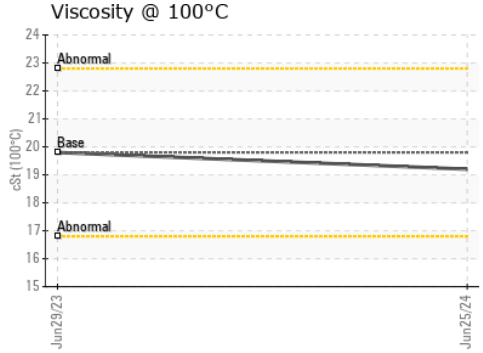
PQ



Copper/Aluminum/Tin



Viscosity @ 100°C



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC871690 **Received** : 28 Jun 2024
Lab Number : 02644562 **Tested** : 28 Jun 2024
Unique Number : 5802101 **Diagnosed** : 28 Jun 2024 - Kevin Marson
Test Package : AVI 1 (Additional Tests: PQ)

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.

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