OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
(C-FRRG)
Machine Id
CESSNA 32175-D-5-C
Component
Piston Aircraft Engine
Fluid
PHILLIPS 66 AVIATION X/C OIL SAE20W50 (8 GAL)

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 perform a compression test, and a borescope exam. We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. Provided compression test checks O.K., resample in 20 to 25 hours to monitor.

WEAR

Iron ppm levels are abnormal. A sharp increase in the iron level is noted. Cylinder wear is indicated.

CONTAMINATION

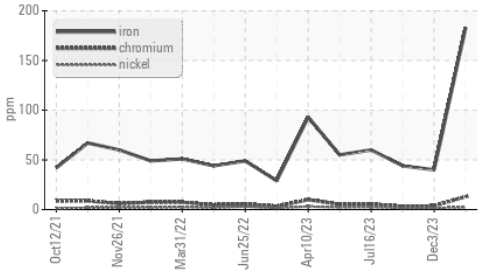
There is a moderate concentration of dirt present in the oil.

FLUID CONDITION

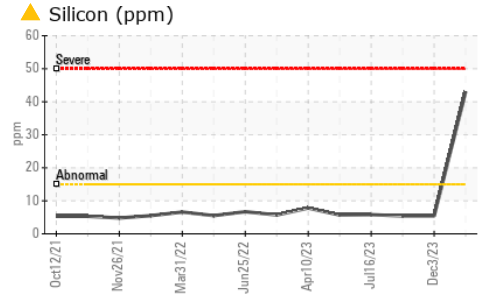
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0827564**	WC0827565	WC0827566
Sample Date		Client Info		**07 Apr 2024**	03 Dec 2023	30 Aug 2023
TSN	hrs	Client Info		**0**	0	0
TSO	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	25
Filter Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Filter Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	NORMAL
PQ		ASTM D8184*		**123**	---	---
Iron	ppm	ASTM D5185(m)	>90	▲ **183**	40	44
Chromium	ppm	ASTM D5185(m)	>20	**13**	4	3
Nickel	ppm	ASTM D5185(m)	>15	**2**	2	1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>5	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	**12**	3	3
Lead	ppm	ASTM D5185(m)	>20000	**3356**	2174	2035
Copper	ppm	ASTM D5185(m)	>25	**13**	4	4
Tin	ppm	ASTM D5185(m)	>30	**2**	0	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>15	▲ **43**	5	5
Potassium	ppm	ASTM D5185(m)	>20	**<1**	0	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**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	VLITE
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%	NEG
Sodium	ppm	ASTM D5185(m)		**<1**	<1	<1
Boron	ppm	ASTM D5185(m)		**<1**	<1	0
Barium	ppm	ASTM D5185(m)		**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**1**	0	<1
Magnesium	ppm	ASTM D5185(m)		**5**	3	4
Calcium	ppm	ASTM D5185(m)		**5**	2	4
Phosphorus	ppm	ASTM D5185(m)		**3**	<1	2
Zinc	ppm	ASTM D5185(m)		**4**	2	4
Sulfur	ppm	ASTM D5185(m)		**920**	881	879
Visc @ 100°C	cSt	ASTM D7279(m)	19.8	**19.3**	21.1	19.6

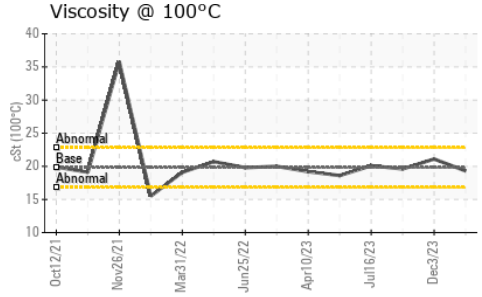
Ferrous Alloys



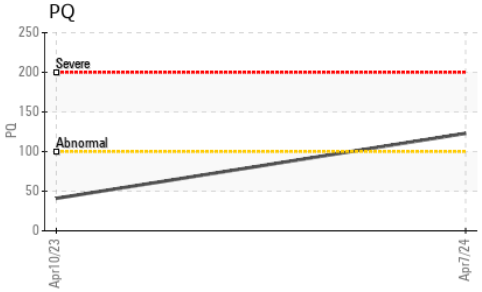
Silicon (ppm)



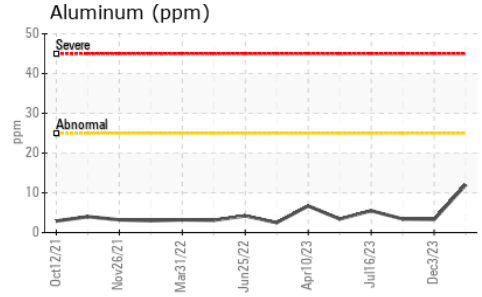
Viscosity @ 100°C



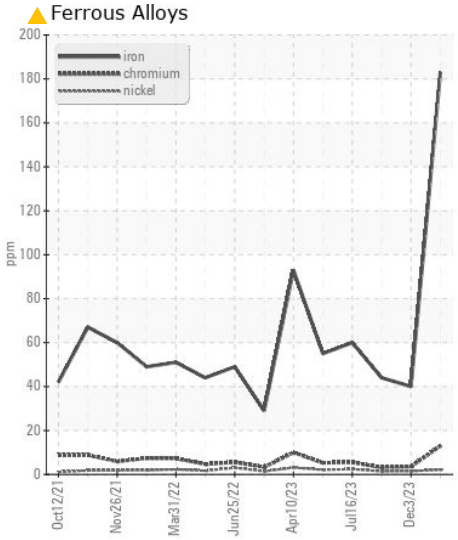
PQ



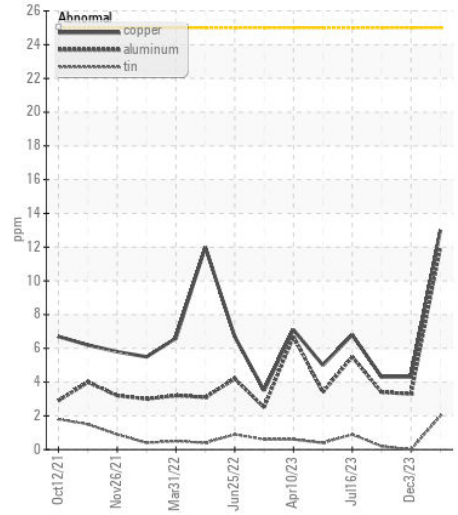
Aluminum (ppm)



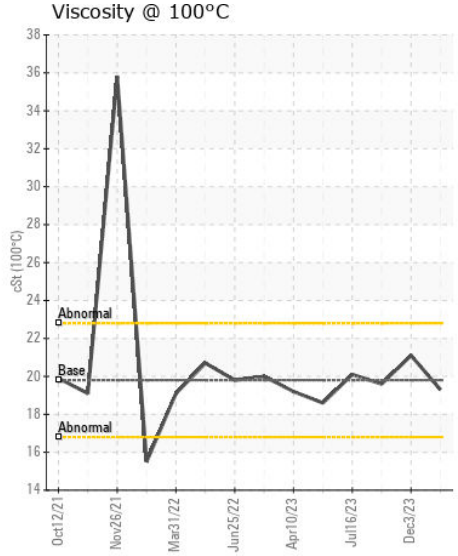
Ferrous Alloys



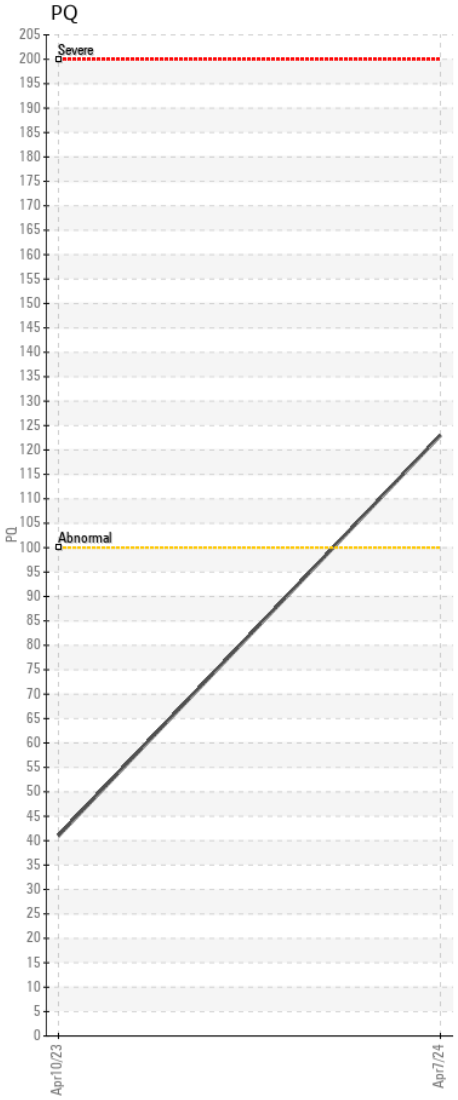
Copper/Aluminum/Tin



Viscosity @ 100°C



PQ



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0827564 **Received** : 15 Apr 2024
Lab Number : 02628804 **Tested** : 16 Apr 2024
Unique Number : 5761936 **Diagnosed** : 16 Apr 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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