



# OIL ANALYSIS REPORT

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

Area

## MOUNTAIN AIR HELICOPTERS

Machine Id

### CESSNA 414A N414PW (S/N 276627R)

Component

### Left Piston Aircraft Engine

Fluid

### PHILLIPS 66 AVIATION X/C OIL SAE20W50 (--- GAL)

#### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GF0001000	---	---
Sample Date		Client Info		23 Sep 2023	---	---
TSN	hrs	Client Info		0	---	---
TSO	hrs	Client Info		77	---	---
Oil Age	hrs	Client Info		30	---	---
Filter Age	hrs	Client Info		30	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				ABNORMAL	---	---

#### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	54	---	---
Chromium	ppm	ASTM D5185m	>20	32	---	---
Nickel	ppm	ASTM D5185m	>15	12	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>5	0	---	---
Aluminum	ppm	ASTM D5185m	>25	11	---	---
Lead	ppm	ASTM D5185m	>20000	2553	---	---
Copper	ppm	ASTM D5185m	>25	5	---	---
Tin	ppm	ASTM D5185m	>30	1	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	LIGHT	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

#### CONTAMINATION

Elemental level of silicon (Si) above normal indicating ingress of seal material.

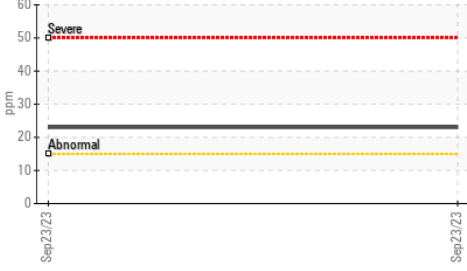
Silicon	ppm	ASTM D5185m	>15	▲ 23	---	---
Potassium	ppm	ASTM D5185m	>20	1	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---	---

#### FLUID CONDITION

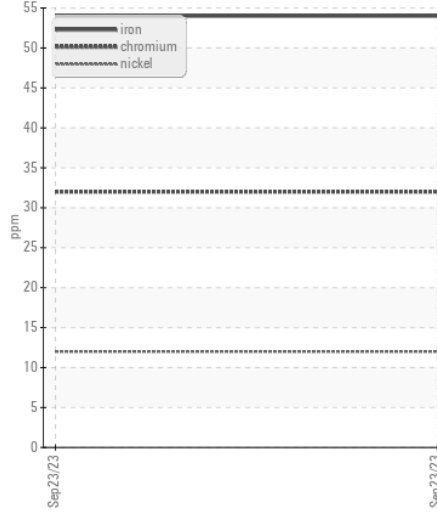
The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		1	---	---
Boron	ppm	ASTM D5185m		0	---	---
Barium	ppm	ASTM D5185m		1	---	---
Molybdenum	ppm	ASTM D5185m		11	---	---
Manganese	ppm	ASTM D5185m		1	---	---
Magnesium	ppm	ASTM D5185m		<1	---	---
Calcium	ppm	ASTM D5185m		60	---	---
Phosphorus	ppm	ASTM D5185m		38	---	---
Zinc	ppm	ASTM D5185m		4	---	---
Sulfur	ppm	ASTM D5185m		2114	---	---
Visc @ 40°C	cSt	ASTM D445	159	179	---	---

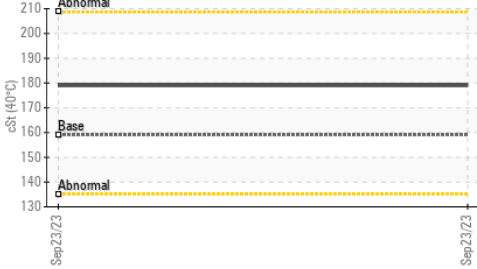
▲ Silicon (ppm)



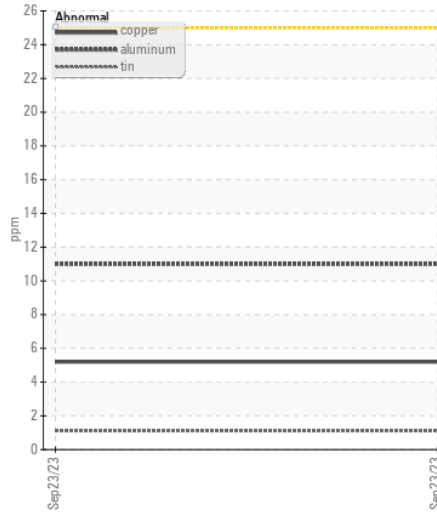
Ferrous Alloys



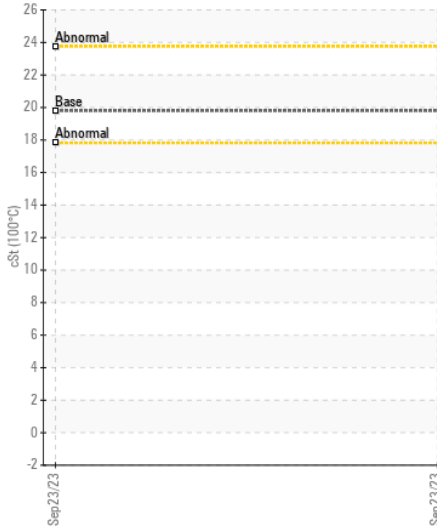
Viscosity @ 40°C



Copper/Aluminum/Tin



Viscosity @ 100°C



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GF0001000 **Received** : 11 Oct 2023  
**Lab Number** : 05976664 **Tested** : 12 Oct 2023  
**Unique Number** : 10688614 **Diagnosed** : 13 Oct 2023 - Don Baldrige  
**Test Package** : AVI 1 ( Additional Tests: KV40 )

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To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)