



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

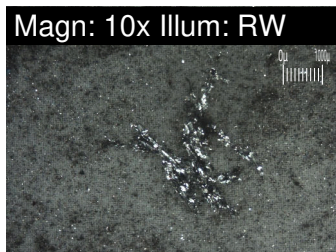
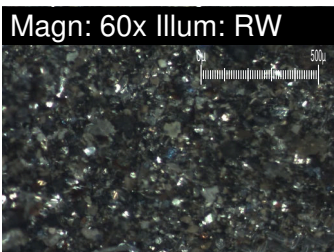
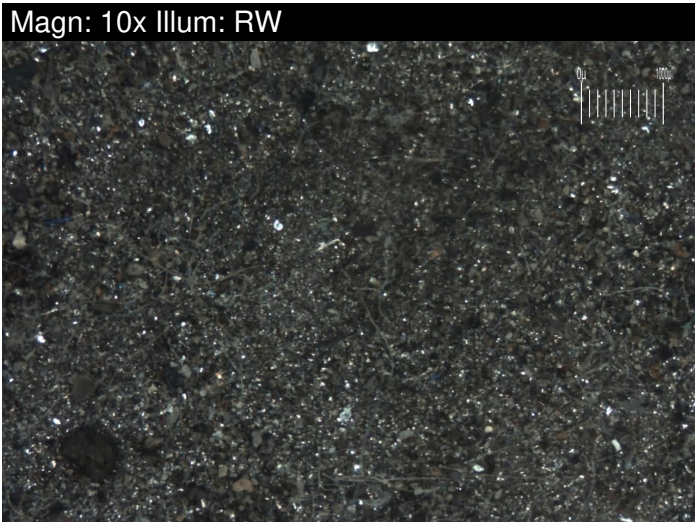
Area
(C-FXQZ)
Machine Id
PIPER L-8979-40
Component
Piston Aircraft Engine
Fluid
PHILLIPS 66 20W50 X/C (11 LTR)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Ensure that only an ashless oil formula is being used in this engine to prevent deposits on the pistons which can lead to pre-ignition. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.



Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0910040	---	---
Sample Date		Client Info		27 Feb 2024	---	---
TSN	hrs	Client Info		6100	---	---
TSO	hrs	Client Info		450	---	---
Oil Age	hrs	Client Info		50	---	---
Filter Age	hrs	Client Info		50	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ATTENTION	---	---
PQ		ASTM D8184*	>200	0	---	---
Iron	ppm	ASTM D5185(m)	>90	36	---	---
Chromium	ppm	ASTM D5185(m)	>20	7	---	---
Nickel	ppm	ASTM D5185(m)	>15	2	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)	>5	0	---	---
Aluminum	ppm	ASTM D5185(m)	>25	14	---	---
Lead	ppm	ASTM D5185(m)	>20000	2786	---	---
Copper	ppm	ASTM D5185(m)	>25	7	---	---
Tin	ppm	ASTM D5185(m)	>30	<1	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
White Metal	scalar	Visual*	NONE	LIGHT	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Ferrous Rubbing	Scale 0-10	ASTM D7684*		1		
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		1		
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*				
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*		2		
Nonferrous Sliding	Scale 0-10	ASTM D7684*		1		
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				
Patch Weight	mg	ASTM D7684*		81	---	---

CONTAMINATION

The water content is negligible. There is no indication of any contamination in the oil.

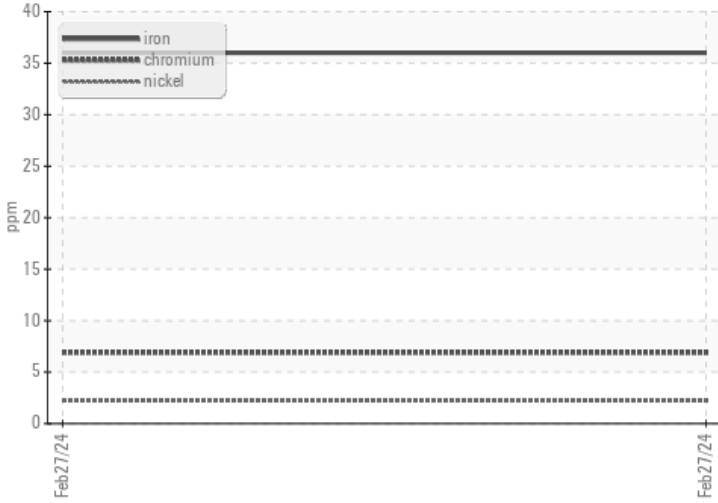
Silicon	ppm	ASTM D5185(m)	>15	5	---	---
Potassium	ppm	ASTM D5185(m)	>20	<1	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water	%	ASTM D6304*	>0.1	0.030	---	---
ppm Water	ppm	ASTM D6304*	>1000	305	---	---
Glycol		WC Method		NEG	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	WGOIL	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.1	.2%	---	---
Sand/Dirt	Scale 0-10	ASTM D7684*		2		
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*				

FLUID CONDITION

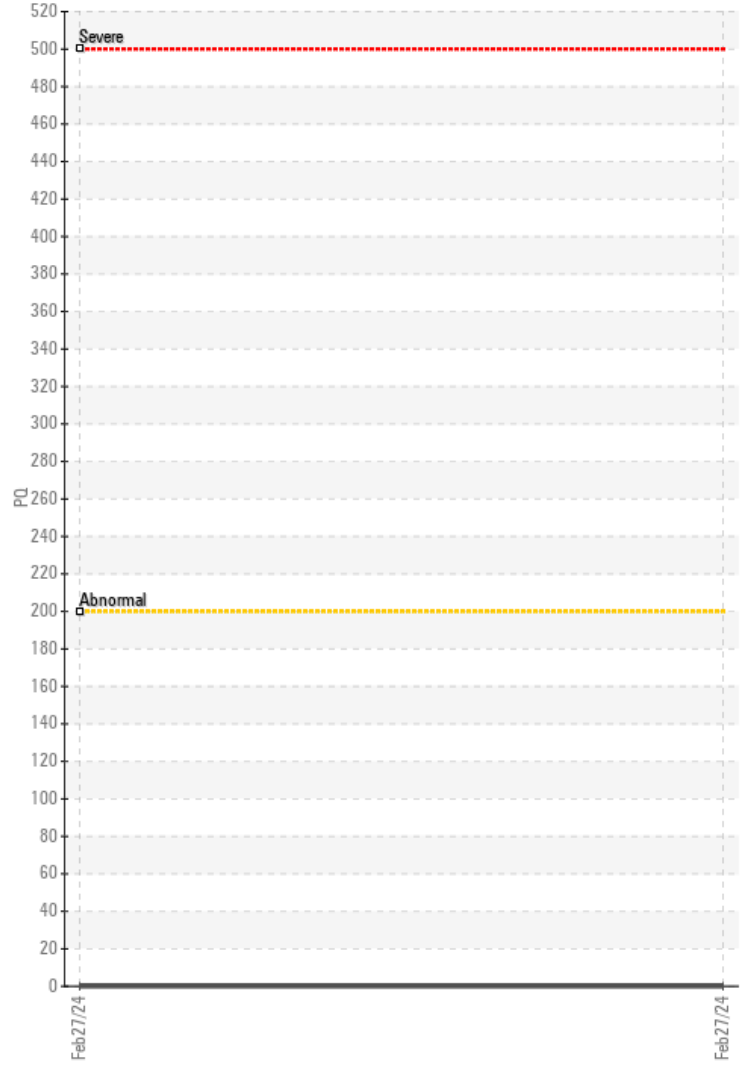
Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		<1	---	---
Boron	ppm	ASTM D5185(m)		<1	---	---
Barium	ppm	ASTM D5185(m)		0	---	---
Molybdenum	ppm	ASTM D5185(m)		1	---	---
Manganese	ppm	ASTM D5185(m)		0	---	---
Magnesium	ppm	ASTM D5185(m)		38	---	---
Calcium	ppm	ASTM D5185(m)		85	---	---
Phosphorus	ppm	ASTM D5185(m)		34	---	---
Zinc	ppm	ASTM D5185(m)		50	---	---
Sulfur	ppm	ASTM D5185(m)		1579	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.150	0.68	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	19.8	19.1	---	---

Ferrous Alloys



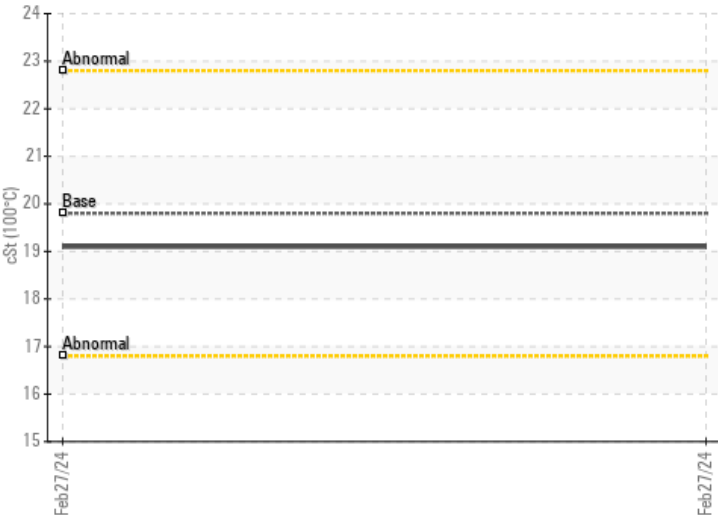
PQ



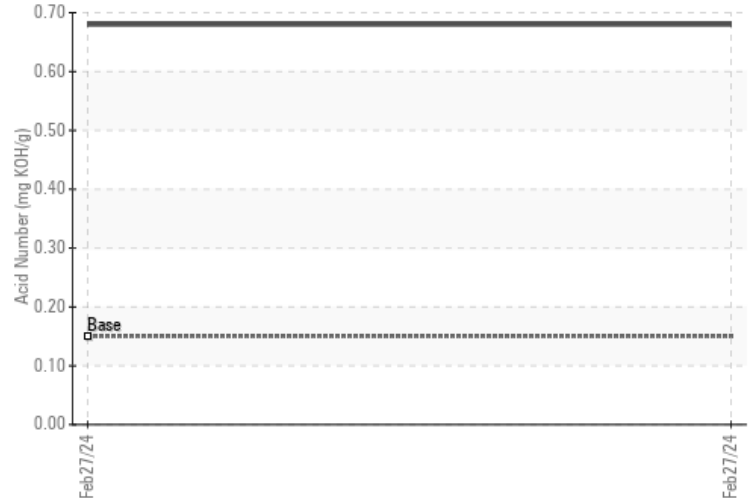
Copper/Aluminum/Tin



Viscosity @ 100°C



Acid Number



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0910040
Lab Number : 02619780
Unique Number : 5736890
Test Package : AVI 2 (Additional Tests: KF, PQ)

Received : 04 Mar 2024
Tested : 05 Mar 2024
Diagnosed : 06 Mar 2024 - Bill Quesnel

Andreas Weichert
 268 2nd Ave
 Ottawa, ON
 CA K1S 2H9

Contact: Andreas Weichert
 arweichert@gmail.com

T: (613)327-1069
 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.

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